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A  
C O M M E N T A R Y  
O N  
A P O P L E C T I C  
A N D  
P A R A L Y T I C A F F E C T I O N S, &c.

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P R I C E T H R E E S H I L L I N G S.

COMMEMORATIVE

ALPHABETIC

PARALLEL

ALPHABETIC

P

ME

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PR



3.

A  
C O M M E N T A R Y  
O N  
A P O P L E C T I C  
A N D  
P A R A L Y T I C A F F E C T I O N S.  
A N D O N  
D I S E A S E S C O N N E C T E D  
W I T H T H E  
S U B J E C T.

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By THOMAS KIRKLAND, M.D.  
MEMBER OF THE ROYAL MEDICAL SOCIETY, EDINBURGH;  
OF THE MEDICAL SOCIETY, LONDON; AND OF THE  
AGRICULTURAL SOCIETY, LEICESTERSHIRE.

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Rationalem quidem puto medicinam esse debere; instrui vero  
ab evidentibus causis, obscuris omnibus, non a cogitatione  
artificis, sed ab ipsa arte rejectis.

CELSUS.

L O N D O N :  
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M.DCCC.XCII.

COMMENTARY

ON

PARALYTIC AFFECTIONS

OF THE

SUBJECT

BY THOMAS H. HALL, M.D.

OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA

PHILADELPHIA: J. B. LIPPINCOTT & CO. 1871

## P R E F A C E.

**F**ROM appearances in dead bodies, from observations in practice, and from the good effects which have followed the use of opium, and other stimulant sedatives, in the cure of nervous apoplexies and palsies, under certain restrictions; I have long been dissatisfied with the prevailing opinions, concerning the disorders on which we are about to treat. In consequence I have been induced to take a view of the subject, from Hippocrates to the present time, and offer, with all due deference to the faculty, the result of this enquiry, comprized in as short a compass as it would permit. Nor has the necessity of such an examination been overlooked. Fothergill\* “wished

\* Lond. Esqui. vol. 6th.

ii P R E F A C E.

“to see this subject re-considered,  
“and the doubts which presented  
“themselves to him cleared up by  
“experience; or that a practice  
“somewhat different from that  
“generally adopted should be re-  
“commended.”

After considering the different opinions of some of the principal writers who have treated on apoplexies and palsies, and the effects of the remedies in general use for the cure of them; I have been led, from the confusion in which I found the subject involved, to make a new arrangement, and to distinguish the different species of these maladies; by which we are able to point out when opium, and when other stimulant sedatives are proper, when they ought not to be used,  
and



## P R E F A C E. iii

and when other remedies ought to have preference; and it is hoped the regulation we have made, will remove that embarrassment the reader must manifestly labour under, in the common description of these diseases; writers having, in the catalogue of symptoms, not omitted to collect those which belong to other complaints; nor will the intelligent reader be displeased with seeing that the practice recommended, arose from accidental observation, instead of reasoning *a priori* on the subject.

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In the following commentary, we consider the brain diffused through and over every fibre in the whole body, making one continued and connected substance, in the manner described in a dissertation we have elsewhere written on the brain and nerves. Hence the well-known consent of parts we shall have occasion to speak of, and

and consequently we use the words brain and nerves synonymously, both being comprehended in the *brainular system*. Nor will the introduction of a new term, I apprehend, be thought improper, when we call to mind that even so late a writer as *Monro*, found it necessary, to explain what he meant by the words nervous system; whereas the term we have chosen, according to the above ideas, at once explains itself.

The words *irritate* and *stimulate* are commonly used as synonymous terms; but in this commentary they are employed with very different meanings. To irritate is to fret and inflame, or at least it has a tendency to inflame; whereas to *stimulate*, is to warm, cherish, and exhilarate,



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exhilarate, without fretting and inflaming.—Seeing there are stimulants without any sedative property\*, and vice versa†, we have used the term *stimulant sedative*, when the remedy possesses both these qualities.

\* Witness many cordials

† Lead is a powerful sedative, without any stimulant property.

A C O M.

PREFACE

exhaustive, without first and in-  
flaming—seeing there are firms  
large without any laborer prop-  
erty, and vice versa, we have used  
the term *firm* laborer, when  
the property belongs both to the firm  
and the laborer.

It is a well known fact that  
many firms are owned by  
a few persons, and many  
laborers are employed by  
a few firms, without any firm  
property.

It is a well known fact that  
many firms are owned by  
a few persons, and many  
laborers are employed by  
a few firms, without any firm  
property.

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**A**  
**COMMENTARY**  
**ON**  
**APOPLECTIC AND PARALYTIC**  
**AFFECTIONS.**

# COMMEMORARY

OF  
 THE  
 AFFECTION

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C O M M E N T A R Y  
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A P O P L E C T I C   A N D   P A R A L Y T I C  
A F F E C T I O N S.

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“ Requirebatur cognita apoplexiæ historia, ante-  
quam de paralyfi vel caro, ageretur.”

Baron VAN SWIETEN.

PART THE FIRST. SECTION THE FIRST.

*A brief Historical Account of Apoplexies  
in general.*

**T**HE Greek word *Αποπληξία*, used by Hippocrates, Aretæus, and other Greek writers from *Αποπλήσσω*, to strike suddenly, was translated morbus attonitus \*, or more commonly fideratio by the Latins, and apoplexy, stroke, or blasting

\* Celsus, lib. 3. cap. 26.

by the English. But this appellation does not particularize any one disease, and of course those who have explained it, often comprehend, in their account, a variety of complaints.

Nervous  
apoplexy,  
in what  
manner  
it affects  
the body.

It seems, however, to be a sudden \* affection in the brainular system, by which the vital principle is more or less injured, and a loss of sense and motion, except in the thorax and heart, and the vessels connected with the heart, follow †. But to have clear ideas how it came to pass that different

\* Cælius Aurelianus, whose book is a short comment on former writers, says, “ Apoplexia dicta est, quod tanquam ex letali percussu repentinum faciat casum. Est autem oppressio sæpe sine febribus, repentina, et quæ sine febribus sensu privet corpora, semper celerrima, & nunquam tarda esse probatur.” De morb. acut. lib. 3. cap. 5.

† The secretions, in some degree, are carried on for some time, after the commencement of the disease, and profuse sweating frequently accompanies. I have known assa fœtida clysters bring on a violent sweat, but without any relief to the patient; all which seems to shew, that the lesser order of vessels do not cease to perform

different comatose diseases have been called apoplexy, we must consult Hippocrates, our first writer, and for this purpose we will collect together into one reading, his scattered account of this malady; remembering that he speaks of apoplexy and palsy by the same name: wherefore, it seems proper to take a view of his opinion before we proceed, because it will expose the source of error, and is not, I believe, generally known.

He says, “ \* A person in health is suddenly seized with a pain about the head, the voice is immediately intercepted, he snores and gapes, and if spoken to or moved, he only sighs; is insensible, and makes a great deal of water without knowing of it. If he becomes mute and snores, he dies within seven days,

perform their office, so long as a circulation is carried on through the arterial system, which may readily be accounted for by the doctrine advanced in our medical surgery, vol. 1. p. 306.

\* De morb. lib. 2. sect. 21. aphor. 51. lib. 6.

“ unless a fever comes on, and then he  
 “ generally recovers \*.”

“ This kind of disease more generally  
 “ happens to people advanced in years †,  
 “ than to young subjects; but the most  
 “ usual time of attack, is betwixt forty  
 “ and sixty years of age. It is more com-  
 “ mon in winter and rainy seasons. The  
 “ brain suffers and becomes morbid, and  
 “ if it be eroded, sustains a violent de-  
 “ rangement; hence delirium, the brain  
 “ is convulsed, and involves the whole  
 “ man in the same perturbation; he be-  
 “ comes incapable of speaking, and sus-  
 “ pention ensues ‡.”

At

\* The same observation is made in several other places, but we do not find it holds good in this climate; perhaps it may allude to the palsy, of which we shall take notice in its place.

† On the contrary, see Dr. Falconer's account, Lond. Med. Society, vol. 2.

‡ Lib. de glandulis, No. 9. To understand this passage properly, the preceding part of this book should be read, and we will beg leave to offer a translation



At the spring and autumn, a metastasis in attrabiliary disorders is dangerous, and indicates apoplexy, spasms, mania, or

lation of so much of it as concerns the subject, in hope of affording pleasure to an inquisitive mind, when the original, or a Latin translation may not be at hand.

HIPPOCRATES, in his book on the glands, properly so called, after describing the situation, structure, use, and diseases, proceeds to make some observations on the brain; which he considers as having a near resemblance to the glands, in its form and uses; and then goes on to observe, “that discharges, by secretion from the head, take place naturally, according to some one of these three ways,—By the ears, by the eyes, or by the nostrils. There are others by the palate into the throat and stomach; others by the veins into the spinal marrow, and the blood.—Seven in all.—These discharges, while they continue, purge the head, and when they are suppressed, disease is the consequence. The same happens in other parts of the body; but if they make their way internally, and not externally, and meet with much internal obstruction, the acrid parts of the rheum, if the brain emits any, remains, and corrodes and exulcerates in the succeeding defluxions; and if an abundant and continued flow of humours comes on, the discharge cannot

B 4

“ terminate,

blindness \*. They who are rendered infirm, through a wound in the body, if a fever unattended with a rigor succeeds, are restored; but if no fever ensues, an apoplexy of the right or left side is the consequence †. “ If apoplectic patients  
 “ are attacked with the piles, the symptom is favourable, if with chilling and

“ terminate, till the whole of the descending matter  
 “ be exhausted. For as the humours which flow in  
 “ are discharged, others are received in their room,  
 “ become assimilated to the humours they meet with,  
 “ and produce diseases; and thus both these, if not  
 “ attended to, enervate the constitution, and bring  
 “ on grievous and stubborn maladies.

“ In this state” the defluxions described, “ are  
 “ attended with much danger, and become preternaturally and unusually morbid. The brain itself  
 “ also suffers, in the manner above recited, and this  
 “ affection is denominated an apoplexy.” When great defluxions did not produce *acrid* rheum, the consequence he describes seems to be idiotism; after which, he speaks of the ophthalmy, and of defluxions, about the ears, and in the intestines.

\* Aphor. 55 & 56. lib. 6.

† An instance of the apoplexy and palsy having at this time one general name,

“ torpor,

“ torpor, it is a bad sign. In apoplectic  
“ complaints, if sweating ensues, upon  
“ difficult respiration, it is fatal. Again,  
“ if in the same maladies a fever takes  
“ place, the disorder terminates, or when  
“ they come on suddenly, and after a  
“ length of time, terminate in a conti-  
“ nual fever, they are mortal \*. Persons  
“ afflicted with pains in the head, noise  
“ in the ears, dizziness, slowness of speech,  
“ and a torpor in the hands, unaccom-  
“ panied with fever, may be expected to  
“ be attacked, either with the apoplexy,  
“ epilepsy, or idiotism.”

“ It is impossible to cure a vehement  
“ apoplexy ; nor is a weak one very easily  
“ cured” ||. Hence we see, in the days  
of this writer, the nervous apoplexy, the  
apoplexy from defluxions, and the palsy,  
were all described under one general name.  
The only distinction made is in their de-

\* Coact. pranot. 3s. 52 & seq. & 2s. 6.

|| Aphor. 42. lib. 2s.

gree of violence; and hence the confusion, we shall meet with in practice, arose.

Galen,  
and the  
subse-  
quent  
Greek  
writers.

GALEN says, " an apoplexy is a palsy  
" of the whole body," and, being fond  
of theorising, imagined it to arise from a  
sudden colluvies of pituita, or a thick cold  
phlegm, filling the ventricles of the brain,  
except betwixt the age of forty and sixty,  
and then a melancholic humor is apt to  
take place. It is an acute disease, with-  
out a fever, " though he speaks of a hot,  
" or a warm apoplexy," in which he says,  
" if a fever comes on, it is not easily  
" relieved."

" It is more common to old men than  
" any other disorder; because in them the  
" brain is filled with a pituitous humor.  
" All the muscles, except those which  
" lift up the thorax, become destitute of  
" motion; the whole body is deprived of  
" both sense and motion, respiration only  
" remaining, and when this is stopped,  
" it



"it is a most acute apoplexy\*." Which doctrine was copied by Ætius † Paulus, ‡ and all the subsequent Greek writers, implicitly, without, as far as I can find, one fact to support the theory advanced.

MARINELLUS, in his learned commentary on Hippocrates, from the passage we have quoted above, and a passage in Galen, respecting chronic apoplexies, divides this disease into two kinds, the acute, of a hot nature, and called strong, the other weak, chronic, and cold. The acute, or strong, was said to arise from an acrid, and the chronic from a thick pituitous, attrabiliary defluxion; in which distinctions the apoplexy and palsy are described under one general name. Hence we see how it came to pass, that Hippocrates called a local palsy of the leg, and an he-

\* Those who wish to see from whence this reading is made, will save themselves much trouble, if they have recourse to Lacuna's Epitome Galeni.

† Cap. 27. Serum 2.

‡ Lib. 3. cap. 18.

miplegia



miplegia, an apoplexy, and why Galen affirmed them both to be of the same kind.

The opinion, however, of Marinellus was not attended to, for what Ætius and Paulus had copied from Galen, about cold, thick phlegm being the cause of every kind of apoplexy, was handed down to about the time of Fernelius \*, who denied that the ventricles of the brain are in this disease either filled or obstructed with this kind of humour, and gives it as his opinion, *from reasoning upon the subject*, that it is brought on “ by the arteries of the brain being compressed or obstructed.—Whence the heart does not receive the spirits usually sent to it, and sense and motion perish.”

Hoffman.

Afterwards, Hoffman adopted the opinion about the serous and sanguineous (hæmorrhagia cerebri) apoplexy, in which he supposes “ by the compression, thus made upon the brain, the secretion

\* De abditis rerum causis, lib. 2. p. 86.

“ and

"and distribution of that subtle fluid  
"through the nerves, essential to sense  
"and motion, is not only impeded, but  
"the circulation of the blood through  
"the brain is disturbed, and interrupted.  
"Hence both animal and vital actions  
"languish, and in a short time are to-  
"tally extinguished."

These opinions were copied and adopted by the Baron Van Swieten \*, and it is worth observing, that notwithstanding he very properly defines an apoplexy, and tells us that persons seized with it, "fall down at once, as if struck by a sudden blow, in the same manner as a bullock knocked down with a butcher's ax," yet like most of those who have gone before him †, he defines one disease, and immediately treats of another. And these principles, in one form or other, have continued to this day.

Van Swi-  
eten.

\* Com. Sect. 107.

† Aurelianus, Etmuller, and perhaps a few others, are exceptions.

There

Cullen.

There is a late exception, indeed, in Cullen \*, who, after adopting the doctrine of compression, thinks it probable, "*that this disorder does not always depend upon that cause, but sometimes upon a certain state of immobility of the nervous power, produced by certain circumstances in the nervous system itself, which seems to be communicated from one part of the body to another,*" and whether this does not always happen in the nervous apoplexy, will hereafter appear.

\* First lines 1051. vol. 3. p. 162

PART

PART I. SECTION II.

*On the vehement, or first Species of nervous  
Apoplexy.*

**H**AVING pointed out, that various and very different disorders have been called apoplexies, even by Hippocrates himself; we now mean an attempt to distinguish them from each other, and to shew the methods of cure, which we have found most successful, under different circumstances.

By apoplexy in the present instance, we wish to be understood to speak of that disorder, in which the patient falls down suddenly, as if he were thunder-struck, into a profound sleep, with snoring and sonorous respiration. He is destitute of motion, except in the thorax and heart. — Is insensible, and has a hard, full, disordered pulse, accompanied soon with a relaxed, or dilated countenance, and a flushing



flushing in the face. There are other symptoms which often attend, that are common to other disorders ; but these are the leading features of the complaint we mean first to describe.

The snoring and sonorous respiration, are pathognomonic symptoms of the disease, and profound sleep, insensibility, &c. without them, do not characterize the malady. Cullen says, "the stertorous breathing is not always present, even in the most complete form, or the most violent degree of this disease \*," and accordingly omits it in his definition. But to have made this observation useful, the kind of apoplexy, he had in view, should have been specified ; for though it is true there are violent apoplexies, in which these symptoms do not appear, yet we must remember, that Hippocrates, in the 51 Aphorism of his sixth book, seems to notice the stertorous breathing as a

\* First lines.

leading



leading symptom \*: and Galen, in his second comment, Aphorism 42. considers violent respiration as a symptom denoting the greatest and most acute apoplexy; and all the writers, I have seen, except Cullen, coincide with them in opinion. Wherefore we apprehend Cullen does not allude to that disease, of which we are treating, but to some other, we shall hereafter have occasion to mention.

The apoplexy, then, before us, we consider to be a disease *sui generis*, arising from an internal cause, because it has peculiar symptoms: it does not always originate in the head, as has been imagined, but also in the viscera of the thorax or abdomen, or both together. It apparently happens to those possessing a morbid irritability, occasioned by some kind of affection in the brain itself, or some other part of the brainular system †,

Owing to  
a disor-  
dered  
state of  
the  
nerves.

\* See also lib. 2. de morbis.

† It may be remembered, that in the first volume of our Medical Surgery, p. 180, we described a disease in the diffused brain, which brought on the

Occasion-  
ing an  
apoplectic  
diathesis.

which constitutes what we call, an apoplectic diathesis; and we have for that reason named it the first species of nervous apoplexy, because we have discovered that plethora, extravasations of blood, or red serum, or the polypi, we sometimes find in dissecting the brain, are not the cause of this, but the cause or consequence of other maladies \*, we shall hereafter speak of, which require a different treatment.

This I was led to conceive from seeing, that turgid veins may happen in the brain, and that extravasated blood, or serum, in large quantities, may be lodged upon this substance, or betwixt its foldings, without producing the symptoms we have described.

### C A S E I.

The butler, in the absence of a family, having wasted the greatest part of the tetanos. Perhaps something similar may bring on an apoplectic diathesis.

\* See Coma.

wine

wine under his care, determined to evade the consequences of an inquiry, which he had reason to expect would soon happen, by putting a period to his existence. For this purpose he loaded a pistol, but being fearful of pain, tied a thick wet cloth many doubles round his head, through which the ball did not pass, tho' the pistol was close applied when fired. That side of the head however was much bruised, the scull slightly fractured, and though he had the assistance of a surgeon before I saw him, he died on the third day.

The day following Mr. Spender and myself opened the head, and were surprised on finding every part of the scull full of coagulated blood. Every interstice, in the substance of the brain and cerebellum, was filled with it; yet though he dropped down at first, and was stupid for awhile, he recovered his senses, and remained without any apoplectic symptoms. He talked very sensibly when spoken to, till within a few hours of his

C 2

death,

death, which event I imagine was occasioned by the concussion and derangement the brain had suffered ; for though it has been usual in concussions, to ascribe the death of the patient to the blood we meet with upon opening the scull, yet it is easy to prove, that the extravasation is not the cause, but the consequence of the cause of death.

A man received a violent blow upon the head with a large hedge stake, and instantly complained of violent pain all over it, said he should die if he was not immediately bled, and he did die in a very little time, before any assistance could be procured. Upon opening the scull at the coroner's inquest, we found a cake of arterial blood betwixt the dura and pia mater, about the thickness and size of half a crown ; but as the pain was instantaneous, before any blood could be discharged from the ruptured vessel, and the quantity, in the situation we found it, insufficient to destroy life in so short a time,



time, I ascribed his death not to the coagula, but to the concussion the brain underwent from the violence of the blow.

When an ox is knocked down by a butcher, he instantly becomes senseless from the concussion before any extravasated blood can happen, and death is independent of the rupture of the vessels we meet with upon opening the head. Is it not also often the consequence of concussions of the brain, where upon dissection extravasation of any kind is not to be found?

These observations put me upon a new train of thinking about apoplexies. I was led to look back upon the cases which had passed my notice connected with the subject; and the result of my inquiry was, that erroneous opinions had been drawn from appearance, in the dissection of dead bodies,



## C A S E II.

A keeper in the forest of Needwood was set upon by some deer-stealers, who beat him violently on the head with their weapons; he instantly became insensible, an hemiplegia seized his right side, he was delirious, and slept, but without either snoring or sonorous respiration.

Several days passed before I saw him, and as no chirurgical treatment had been pursued, I laid the skull bare, but neither fracture or fissure could be found. Suspecting the contents of the cranium to be injured, a trephine was applied on each side the sagittal suture; the dura mater was found black from blood stagnating in its vessels and fibres, and distended much by a fluid underneath. Upon dividing this membrane with a lancet, a considerable quantity both of coagulated blood, and bloody serum were discharged; nor did this kind of evacuation cease of  
a week

a week or ten days, but at last gradually decreasing, the patient got perfectly well, and was able to shoot his deer as usual; which I think would not have happened, if pressure from extravasated blood had been capable of producing an apoplexy.

In the present instance, I look upon the insensibility and hemiplegia to be owing to concussion, because they immediately took place, and the discharge from the opening probably unloaded the vessels, &c. and prevented putrefaction in the membranes and brain. Indeed I have opened the heads of several who died of fractured skulls, in which the veins were turgid, and more or less coagulated blood was found; and yet I do not remember to have seen one of them die with the apoplectic symptoms described.

Turgid  
veins and  
coagula-  
ted blood

The same may be said of extravasated serum in the brain, or betwixt the dura and pia mater, for have not we in concussions of the brain many instances of this sort without an apoplectic symptom

Extrava-  
sated se-  
rum.

C 4                      appearing?

appearing? In the hydrocephalus I believe we never meet with apoplectic symptoms \*, notwithstanding there are sometimes great effusions, or collections of lymph, and sometimes large cysts full of water in the ventricles of the brain.

In abscesses of the brain, which are sometimes long in forming, I have seen the patient less disturbed than could be imagined, though an enormous quantity of matter was discharged, upon opening the skull after death; nor at the closing of the scene is the patient subject to profound sleep, accompanied with a relaxed countenance, snoring, and sonorous respiration †.

Even in fractures of the skull, where we are certain that compression takes place

\* We read of the apoplexia hydrocephaleia, but Whytt, p. 21, much more properly called it a *coma*, arising from a dropsy in the brain, whether acute or chronic. See Coma, sect. 6th.

† This is confirmed by Sir John Pringle, in his dissections of those who died of malignant fevers. *Ob.* part 3. chap. 6. sect. 4. p. 257.

from the bone being depressed, we do not meet with those symptoms ; vomiting, coma, grinding of the teeth, an hemiplegia, and deliriousness, being the principal signs which accompany the injury done to the brain.

Indeed, there are abundance of instances which shew, that extravasated blood and serum do not cause apoplexies. Mr. Pott's cases, in his observations on injuries of the head, afford ample proofs ; and in particular I have turned over Morgagni's dissections, where it is easy to discover, that the cause of death was previous to the extravasations he met with. In one instance he confesses, " that the cerebrum  
" and cerebellum were extremely soft,  
" and," he says, " the brain never seems  
" to be more corroded, than when large  
" and preternatural cavities are found  
" within its substance in this disease, full  
" of blood, with parieties so horribly  
" lacerated and bloody, there is nothing  
" they more effectually resemble than  
deep,



“ deep, corroded ulcers of the external  
“ parts \*.” These he conjectures arose  
from Anuerisms, which suddenly broke,  
and killed the patient; but surely, were  
they of a size sufficient for this purpose,  
would they not have occasioned death be-  
fore that period? Abscesses and ulcers of  
the brain, accompanied with extrava-  
sated blood, may be formed a considerable  
time before they destroy the patient, and  
these, no doubt, were not sudden affec-  
tions, but a work of time †.

In the sixth volume of the London  
Medical Inquiries, I think we have deci-  
sive evidence of red serum, &c. when ex-  
travasated, not being the cause of the dis-  
ease in question; for in a young gentle-  
man, whose head was opened, after his  
death, by Dr. Smith, Dr. Martin Wall,  
and Mr. Longford, “ the membranes;  
“ covering the brain were found tense  
“ and discoloured, accompanied with a  
“ large exudation of serum, tinged with

\* Vol. i. lib. i.

† See Cama.

“ blood.



" blood. Upon turning back the dura  
" mater, the bloody serum flowed more  
" plentifully, the red suffusion was disco-  
" vered all over the surface of the brain  
" itself, and upon barely cutting into the  
" ventricles, there poured out a very un-  
" usual quantity of lymph :” and yet  
this disease, which had continued a long  
time, ended without any apoplectic symp-  
toms ; which fully confutes the opinion  
of Mead, who supposes a watery red hu-  
mor transuding from the blood, to be the  
cause of this complaint, and at the same  
time brings to mind an observation made by  
Etmuller \*, who says, “ the ancients de-  
“ rived the cause of an apoplexy from a  
“ collection of serum in the ventricles of  
“ the brain, but it appears from anato-  
“ mical dissections, that the brain of apo-  
“ plectic persons is not always molested  
“ with any such matter. Whereas col-  
“ lections of serum are found in the heads  
“ of those, who were never seized with

\* Lib. 2, sect. 3d. cap. 3. art. 1.

“ an

“ an apoplexy in ther lives.” Morgagni, in his fifth letter, treats of apoplexies, which neither arise from blood or serum. And lastly, my friend, Mr. Chesshire, of Hinckley, a man to be depended upon, and whose skill in anatomy enabled him to detect any morbid appearances, tells me he dissected many who died of apoplexies in the Middlesex hospital, without being able to discover any extravasations either of blood or serum in the ventricles of the brain, or in any part of the scull; from all which it is evident, some other cause must exist, that occasions the nervous or true apoplexy, after which we shall presently inquire.

Serous  
and sanguineous  
Apoplexy  
considered

In this light, of what use is the distinction of serous and sanguineous apoplexies, which has been kept alive by systematical writers, in opposition to common sense? For if we were even to allow that blood, or serum, are separately capable of bringing on an apoplexy, it does not follow that the one or the other of them is always the

the cause of this disease; and accordingly Morgagni \* is obliged to acknowledge, that this division is imperfect, because apoplexies arise from a variety of causes: and it was for this reason, that Berge-rius no way approved of it, that Mal-phighius held it in contempt †. And that Dr. Heberden says it is a difference, not easy to be seen, and hardly ever looked for in practice ‡.

DR. MEAD, however, says Hippocrates, gave the name of strong to the sanguineous, and light or weak to the serous; but there is no application of this sort in the aphorism recited §; nor has he assisted practice in copying from Baglivi, "that the sanguineous requires plentiful  
"and frequent bleeding, but that purg-

Mead's  
opinion  
of this  
matter.

\* De Apoplexia Epif. 5.

† See Hoffman, sect. 6, de Apoplexia.

‡ Med. Transf. vol. 1, p. 472—Sennertus kept up this distinction improperly, by classing injuries of the head with Apoplexies. De Apoplexia, cap. 33. lib. 1, part 2.

§ Aphor. 42. sect. 2.

"ing

“ing is more requisite in the pituitous ;” for though this squares theory and practice well together, yet he omitted to describe the symptoms which distinguish one kind from the other, and thus left his directions unfinished and useless ; for Hoffman’s theory, on this subject, does not help us to any useful information\*.

Cullen. LEN † more properly observes, that it is a distinction which cannot be very usefully applied, as both kinds may often depend on the same cause, that is, a venous plethora, and therefore require very nearly the same method of cure ; and such diversity of opinions will ever happen, when we proceed upon uncertain or imaginary principles, for does it not appear, that the true apoplexy is not produced by either of these causes, or both together, and that the opinion we are now examining, has all along, with few exceptions only, been espoused without being properly inquired into ?

\* De Apoplexia. † First lines.



I think it is generally agreed that wounds of the cerebellum sooner or later occasion death; it has happened so in every instance I have seen, and it is well known, the humane fowler, having wounded and mutilated his bird, instantly brings on an apoplexy, which puts it out of pain and misery, by piercing the cerebellum with a feather: nor does an abscess, while forming in the cerebellum \*, without producing an apoplexy contradict this observation; for we know the nerves may be gradually stretched, without bringing on any symptom appertaining to convulsions, whereas when they are pricked, or otherwise irritated, nervous agitation more or less follows; whence there is some reason to conclude, that the nervous apoplexy has it's seat principally in the medullary, and comatose affections in the cineritious part of the brain; but more of this as we proceed; let us now examine whether the

Seat of  
apoplexy

\* Ed. Med. Essays. Vol. 6th, p. 106.

nervous



nervous apoplexy does not depend upon some other cause, than compression or extravasation within the scull, usually assigned for apoplexies in general.

**Vertigo.**

The vertigo, which often precedes the apoplexy, seems to be the least or lowest symptom of this disease, and it is well known, is often brought on by the nerves of the stomach being irritated, or otherwise offended, in those habits most probably, where not the nerves of the stomach alone, but the whole brainular system has acquired a preternatural degree of irritability; for nervous affections are seldom, if ever, local\*; in particular, the nerves of the abdominal viscera have a wonderful power over the whole body; and we are inclined to think this cause of the vertigo to be in general the true one†, because by removal of offending matter from the stomach, and by giving

\* See Differt. Brain and Nerves. loc. cit.

† A vertigo may also arise from a disease in the head. See Coma.

remedies

remedies which allay the species of irritability existing, we often cure the patient.

To account for this kind of apoplexy therefore, it is only necessary to suppose the nerves of the stomach to be more violently affected under an apoplectic diathesis, and that this affection is communicated as quick as lightning along the medullary part of the nerve to the same substance in the head, and hence an apoplexy, or sudden stroke is produced. In proof that such a state of the nerves sometimes exists, we may call to mind the state of those in a tetanos \*, or the apoplectic or sudden death of children in dentition, owing to the nerves of the gums being in a state of tension (as we learn by the effects of dividing them) whence the whole body becomes so very irritable, that the clapping to of a door † hastily, for instance, or I apprehend some

Nervous  
apoplexy.

\* See Med. Surg. vol. 1. p. 108. Case 5th.

† I have known this happen.

offence in the stomach has put an immediate period to life. Accordingly, it is very well known, that the stomach being offended by a full meal of improper food, by irritating, in particular habits, brings on too often immediate death, in the manner we have elsewhere described, in speaking of the sympathy of the nerves \*. Nor does Dr. Fothergill's † account of the cause of apoplexy interfere with this suggestion; because we apprehend it belongs to another species of this disease ||.

Indeed, notwithstanding an extreme degree of irritability in the nerves, of any part of the body, may be the cause of an apoplexy, as abundance of instances evince; yet there is reason to believe, that the common nervous apoplexy mostly originates in the stomach, or some part of the abdominal viscera; for people sub-

\* Med. Surg. vol. 1. p. 190, 191.

† Med. Ob. & Inq. vol. 6. p. 84.

|| See Sect. 5. of this part.

ject to apoplexies have commonly acquired this diathesis by inactivity and free living both in eating and drinking; the nerves of the primæ viæ are of course first affected, and sometimes become so susceptible of impresson, as to bring on instant death upon being offended. It is generally believed, that short-necked people are more subject to this complaint than others, owing to an unusual quantity of blood passing through the head \*. But has theory or facts supported this opinion? For though it does happen to persons of this structure of body, in common with others †; yet may it not be observed, that by far the greater number of short-necked people pass through life without one apoplectic symptom happening to them, and that those with long necks are equally liable to this complaint.

\* To judge of this, read *Monro of the circulation of the blood within the head. Structure, &c. Nervous System*, chap. 1. p. 2.

† See *Coma*, forward.



Apoplec-  
tic dia-  
thesis  
cause of  
the fit.

It is not structure then, but more probably an apoplectic diathesis, which occasions this disease, in every instance; nor is this always brought on by intemperance, but by a variety of other causes. For instance, the nerves sometimes seemingly acquire this state from the atmosphere; for apoplexies, it is well known, are more common in some seasons than in others. Baglivi informs us, that they were almost epidemical in the years 1694, and 1695 at Rome, and all over Italy, owing, as he very properly apprehended, to an unusual constitution of the weather \*. Nor do I think we can be much mistaken in our account of the nervous apoplexy, because the pulse points out a diseased state of the nerves. I suspect they are excessively irritable, of course the heart, while capable, contracts with vehement force, and the circulation is carried on by a convulsive irregularity. I apprehend the snoring and sonorous re-

\* Appendix to Practical Physic.

spiration,

spiration, are owing to the same cause; and whoever reflects, that in women with child, who unfortunately happen to be seized with this complaint, the *fœtus* is not uncommonly expelled by convulsive violence, will have very little doubt about the state of the nerves, especially when they hereafter see, that blisters, and whatever irritates the nervous system, accelerates the death of the patient. Should it be still asked whether this disorder may not be brought on by a spasm in the origin of the nerves, we must call to mind the very proper answer of Home\*, "*Haud quaquam; quia musculos, non nervos, spasmus adoritur.*"

After all, it is hard to determine what kind of derangement happens to the brainular system in this instance; the symptoms described differ from any we meet with in other affections, I ever remember to have seen; the living principle is injured; there seems to be a violent

Hard to determine the kind of derangement that happens.

\* Princip. Med. p. 208.

struggle for life, but death has invariably happened in every case I have known, or heard of, in the space of fifty years. Neither evacuations, nor fœtid remedies, to whatever extent carried, afford any relief; and we may remember, that Hippocrates, in summing up his experience on this occasion, asserts, that it is impossible to cure a vehement apoplexy. Nor do the moderns seem to contradict this opinion.

Whether the use of opium, by lessening irritability, &c. will afford relief, remains yet to be determined, and when the evidence we shall produce is heard, the faculty, having no other remedy, will judge whether it ought not to be tried; tho' I confess I am fearful it is from the first a mortal affection. It seems to differ very little from the apoplexy occasioned by an extinction of the vital principle. In the one, life instantly vanishes; in the other, a small portion of it remains for a little time. I have only seen two cases of the vehement apoplexy, since I knew the use  
of

Nervous  
apoplexy,  
and apo-  
plexy  
from an  
immedi-  
ate ex-  
tinction  
of the  
vital  
principle,  
com-  
pared.

of opium in apoplectic affections; in both it was too late to expect any thing from medicine, and I did not give it, but I have trusted to it more than once, with success, in a very violent epilepsy, where the patient lay convulsed, and perfectly insensible. This disorder has been said to have an affinity with the apoplexy, and perhaps the only difference may be in the degree of affection the brainular system sustains \*.

It is happy, however, that in the prophylactic treatment, the physician may be sometimes serviceable, by advising free livers to a cooling and temperate regimen, by keeping the primæ viæ in order, by proper evacuations, and by allaying that kind of irritability, which, from the temperament of the body, we have reason to suspect may prevail.

\* See Postscript.



## PART I. SECTION III.

*On the milder, or second Species of nervous Apoplexy.*

IN contradistinction to the apoplexy, of which we have been treating, Hippocrates, in the same aphorism, speaks of a milder kind of this disease, which he says "is not very easily cured." This distinction has been copied by most writers, but without examining it thoroughly. I have several times seen it, and known it cured; and observe, it is that kind which so often leaves an hemiplegia behind. It has the same symptoms as the apoplexy described, but in a less degree, and the patient is not void of sensation, owing, probably, to the brain and nerves being less violently affected. It is, however, a species of the same complaint, because whatever increases the irritability of the habit, converts it into, what we call, a true nervous

vous apoplexy, with all it's apoplectic symptoms.

C A S E III.

A gentleman about forty years of age, whose manner of living, and habit of body, would lead to a suspicion that an apoplexy might attack him, was seized soon after a full meal with sickness and giddiness; he fell down, and a hard sleep followed, but when stirred to awaken him, he muttered, and sometimes moved his limbs a little, though it was evident he was delirious, but his face was neither dilated or relaxed, as is usual in those seized with the vehement nervous apoplexy.

His apothecary, seeing him inclined to vomit, gave him an emetic, which operated well, but without mitigating the symptoms; for I found him, some hours afterwards, nearly in the situation described. His pulse was about ninety, and full,

full, but without that irregularity so manifest in a vehement apoplexy. Nevertheless, I ordered that ten ounces of blood should be taken away, and that five grains of James's powder should be given every five hours, till it opened his bowels; and by the time he had taken two or three doses, he had several stools, and was apparently better. Next day I ordered an opening mixture, with directions that it should be given in such a manner, as to procure three or four stools every day, for three or four days together; by which he became better, and on the third day was able to walk down stairs, and to ride four miles home in a post-chaise. The day following he read the newspapers, his pulse being reduced to seventy, but as the symptoms which threatened danger had not intirely left him, a sleepiness remaining, *when his mind was not employed*, a consultation was desired, and accordingly another physician was called in. Before this I had some time been dissatisfied

fied

fied with the general opinion about this complaint, and had withheld the use of blisters, fearing the effects of irritation ; but the gentleman called in, thinking the nature and cure of apoplexies were well settled, the common routine of practice, cupping, blistering, &c. was ordered to be pursued.

When his surgeon came in the afternoon, the patient desired him " to go up " stairs with him, and get the cupping " business over," but it fatigued him, and when the blister began to operate, he became convulsed and delirious. A second blister on the head was applied in my absence, and when I saw him soon after, his countenance was relaxed and dilated, and death took possession in a few hours. Nor has Hoffman omitted to inform us of some instances, where irritating purges had a similar effect \*.

Blisters  
their ef-  
fects in  
this dis-  
ease.

\* De Hemor : Cerebri.

There



There is no comment necessary, on the effects of blistering in this case †; nor can there be any doubt of a preternatural degree of irritability in the habit; of the irritation beginning in the stomach, and producing the symptoms in the manner described, in the first species of nervous apoplexy; but in a less degree: for we see, not only in this, but in all other species of this class, the disorder is not attended with so profound a sleep, as in the first species; the patient is delirious, it is true, but though he sleeps harder than common, and sometimes snores a little, yet he has not any apoplectic sonorous respiration; and both his sleeping and snoring, have more the appearance of being natural, than in the first species of this disease.

The pulse, though perhaps full, has

† See Baglivi de usu & abusu vesicant: Also our Treatise on Childbed Fevers, p. 110. I have since been informed of an instance with similar symptoms, which ended in death.

not the agitation in it we observe in the more violent apoplexy ; nor is the countenance dilated or relaxed \* ; neither is he quite destitute of motion in his limbs, when disturbed. He is sometimes sick, and attempts to vomit ; and vomiting gives more or less relief.

\* Whoever reflects that this symptom is the forerunner of death in a variety of instances, will see it is the clearest evidence of nervous energy being destroyed.

## PART I. SECTION IV.

*On the cure of the milder, or second species of nervous apoplexy.*

**I**T may be observed that a loss of blood, to whatever extent carried \*, affords not any relief in the vehement apoplexy; and yet much dependence has always been had upon bleeding indiscriminately, in every disease which has been called an apoplexy. Nor was the propriety of such practice doubted, till Heberden † suspected that mischief may be done by it in this disease. Afterwards, Fothergill ‡ from his mature judgement, was of opinion that it often occasioned the destruction of

\* I have seen two women who were seized with a nervous apoplexy, in an advanced state of pregnancy. They were bled, miscarried, flooded and died, without the least abatement of the symptoms.

† Med. Trans. vol. i. p. 471.

‡ Lond. Ob. & Inq. vol. vi. p. 680.

the

the patient ; but not specifying the apoplexy to which his strictures were applicable, even he himself could not speak with precision on the subject ; and his observations have not therefore, as far as I can discover, yet claimed that regard they deserve.

The arrangement we have made, it is hoped, will supply this defect, for by attending to the distinction betwixt the nervous apoplexy, and the coma or apoplexy, as it has been called, arising from plethora, it will in general be obvious when to bleed and when to let it alone. It is the nervous apoplexy to which his observations belong, where the brain and nerves have lost their power, and the vital principle is so much injured, that there is more or less an approach towards death. Consequently whatever lessens these powers must hasten this kind of termination. There is not any thing, it is well known, that weakens the vital powers more than bleeding when considerable ;  
nor



nor can I see in what manner the loss of blood can afford relief where compression, distention, or inflammation is not the cause of the disease. Wherefore, in this point of view, what Fothergill has said about bleeding in apoplexies, appears to me to be well founded, and to be deserving of the most serious attention.

Should inflammatory symptoms however happen to accompany this disease, and indicate the necessity of a loss of blood, it will be better to make this evacuation at different times, because by this means there will be less hazard of taking more blood away than ought to be lost. Fothergill very properly observes, that the pulse in such a situation is often an insufficient guide, and I wish it to be considered whether the agitation, we meet with in it, does not shew a diseased state of the nerves, which forbids this operation. More dependence is to be had upon vomiting and purging, and seemingly the effects of vomits are not to be dreaded in this

Vomits.

this instance where there is no plethora. I have ordered them myself, and have repeatedly seen them ordered by others, with safety and advantage. After this first step towards clearing the primæ viæ, purges  
Purges. should follow. I have seen the best effects from opening the bowels with small doses of saline purges three or four times a day for several days together, but along with these, opium should be given, for  
Opium; in the second part, we shall shew when way is made for this remedy, there is reason to expect more from it than all the rest put together.

E P A R T

## PART I. SECTION V.

*On apoplexy from an immediate extinction of the vital principle.*

THERE is another well-known species of this disease, owing to the vital principle instantaneously leaving the body. Willis says \*, “the animal spirits “fall down even as the light vanishes, “when the flame is put out ;” or we may compare it to the blasting of trees, where though the plant remains perfect in all it’s parts, the living principle is gone, and it perishes ; though I think we receive the greatest light from the dropping of a feather, when the electrical aura, which occasions it’s being erect, is discharged from the conductor; nor do I apprehend we shall be able to explain this matter further, till we know the manner in which the vital

\* On the apoplexy.

principle

principle and the body are united, and act upon each other. We know that those things which destroy the power of the nerves, such as laurel water, mephitic air, &c. occasion this catastrophe. Great agitation of spirits has sometimes such influence upon the nervous system, as instantly to put a final period to it's office; for

—“ He, whom anger stings; drops, if he dies;

“ At once, and rushes apoplectic down \* ;”

and sometimes the nerves lose all their power without any manifest cause.

#### C A S E IV.

A mantumaker at work was talking chearfully, with some friends about her, when her hands dropped down upon her lap, and she was perfectly dead, without the needle being displaced betwixt her fingers ; which single instance, will suggest

\* Armstrong.

E 2

abundance



abundance of the same kind to the remembrance of the reader.

I have never heard of any successful experiment, in restoring life in this case; nor does it bear analogy to the restoration of those, who appear to be drowned, &c. or where the fumes of charcoal, mephitic vapours, &c. have brought on the appearance of death. In the one, though the person ceases to breathe and move, the nerves retain life for a considerable time afterwards, and if the blood can be put into motion during this period, the body resumes it's natural functions\*; whereas in the present instance, life instantly vanishes, the nerves become insensible to all kind of stimuli or irritants, and a dissolution of the body takes place;

\* Men are often brought up out of coalmines apparently dead, from the effects of what the colliers call damp; but they frequently recover, upon coming to the fresh air.

nevertheless

nevertheless we are not to give up the patient on the appearance of sudden death, because a syncope, &c. may deceive us, and every attempt should be made to try whether we are deceived or not.

## PART I. SECTION VI.

*On a carus or coma, arising from an obstruction and distension of the vessels belonging to the brain.*

BESIDES those we have spoken of, there is a comatous affection which has all along been called an apoplexy, without distinguishing it from the disorders we have described; though it is a different complaint, has different symptoms, and the very aspect of the patient at once determines to which species of soporific disorders it belongs. And what is of the greatest consequence to be observed, the nervous apoplexy and the coma called apoplexy we are going to describe, do not admit of the same method of cure. Wherefore we have chosen this appellation to avoid the confusion that has hitherto happened; and we doubt not but the intelligent reader will at once discover,

ver, the necessity of making this distinction, betwixt two different disorders, comprehended under the same name.

The coma, we mean to treat of, is the apoplexy of Hoffman \*, Boerhaave, Cullen, &c. occasioned by compression of the brain either from a congestion of blood water †, or other humours; nor are the symptoms of this disease and the nervous apoplexy alike. The patient sleeps profoundly in proportion to the violence of the obstruction, but without snoring or sonorous respiration, nor is there a total abolition of sense and motion as in the vehement apoplexy; the pulse is often full, but without remarkable hardness or convulsive agitation; there is frequently more or less a fulness of the vessels about the head, and a swelling or fulness of the tongue, as described

\* Hæmorrhagia Cerebri.

† We allude to the coma hydrocephalica, which may sometimes happen in the acute hydrocephalus.



by Hoffman, and sometimes a fever comes on. †

We have just observed, that it is owing to a congestion in the head, or as Boerhaave expresses it, (speaking of apoplexy) to humours being accumulated in the vessels of the head without extravasation. It is seemingly that kind of apoplexy, spoken of by Hippocrates, where he treats of the brain being morbid from a flux of humors, and I take it to be described by Cullen in his Synopsis, where he says “Apoplexia, motus voluntarij fere omnes imminuti, cum sopore plus minus profundo.” Especially as this writer assigns compression for the chief cause of all apoplexies, except those that are brought on by the sedative power of mephitic air, fumes of charcoal, &c. and Boerhaave and his pupil, who went before Cullen, trod upon the same ground.

† See a further account of the symptoms, case viii, seq.

It is not, therefore, originally a disease, which affects the brain in the manner described in speaking of the apoplexy in the former sections, the one being a nervous affection, and the other arising from obstruction, or distention *within* the vessels (chiefly I believe the veins) belonging to the brain. Nor is there among all the writers of observations a clearer account of this matter than in Cheselden's Anatomy, where he says \* in a man that died of what he called an apoplexy, "I found all the vessels of the brain immoderately distended with blood, and the ventricles and substance of the brain full of lymph; the pia mater very much thickened, and adhering so very closely, that the greatest part of it was separated without breaking." All which could not have taken place suddenly, and consequently, the disease we are describing, instead of an apoplexy,

\* 7th Ed. p. 225.

must have been the cause of the man's death\*.

From comparing the symptoms which attend this disease, with those that are brought on by compression, or other injuries of the cineritious part of the brain, I have been led to conclude, that it is an affection of this substance in its first stage; but if it is not soon checked or removed, the medullary part may also become affected, from the connection they have with each other, and put an end to the business.

We have observed that the nervous apoplexy made its attack suddenly. This, on

\* There are many instances of the same sort to be met with in Bonetus Sepulchretum Anat. Morgagni, Lieutard, and other writers of observations, which notwithstanding they frequently made their approach gradually, are called apoplexies. Those who chuse to continue this appellation to congestions of blood, or lymph, &c. in the head, must nevertheless distinguish this disease into the nervous apoplexy, and that, arising from compression, owing to a fulness of the vessels belonging to the brain, or they will often be doing mischief.

the

the contrary, unless from accident, comes on rather gradually, shewing signs of it's approach, previous to it's laying firm hold of the patient; and it cannot, therefore, properly be called an apoplexy. I take the case Dr. Fothergill \* has given, of a gentleman seized with an apoplexy, as he calls it, from twisting his neck, when passing over the Thames, to be the least or lowest degree of this complaint, of which we are now treating; because it is removed, by placing the head in a position which empties the vessels that return the blood to the heart. The same may be said of what has improperly been called apoplectic symptoms, brought on by holding down the head, &c. and if we only suppose different degrees of obstruction to the highest, we may account for different degrees of affection of this kind. But surely this differs very much from the true apoplexy; being an obstruction in the brain from compression by the blood vessels, and va-

\* Lond. Obs. and Enquiries, vol. 6.



nishes when the compression is removed. It no way resembles the morbus attonitus, or ictus fulminis of Celsus; or that disease of which Cullen had a glimpse\*; and it seems to be a mistaken notion of those, who affix no other meaning to apoplexy than compression. The same may be said of hanging, which some assert occasions an apoplexy; though others with more reason, that it kills by suffocation; yet, notwithstanding it is a sudden death, by which ever way it destroys life, it is very different to that occasioned by an apoplectic stroke; and instead of following systematical writers, who often mislead us, we shall be better understood, if we call hanging, drowning, and suffocation by their own proper names; remembering at the same time, that they all seem to terminate life in the same manner, and require a similar treatment to prevent a fatal catastrophe.

But to return to our subject. The apoplexy which Fothergill supposes to be

\* Last par. sect. 1st.

produced

produced by a large undigested meal, "distending the stomach, pressing upon the aorta descendens, obstructing the free expansion of the lungs, and thus crowding the arterial system of the head, with more blood than ought to be there," is exactly the same kind of disease, and is well explained by a case in the Baron Van Swieten's Commentaries.

C A S E V.

"A gentleman being in company with some friends, began of a sudden to look wild, presently after was struck speechless, and fell down apoplectic. Some of the most skilful physicians, who were called to him, believed the case to be quite desperate, but after a quarter of an hour, without any remedy except bleeding, he vomited, besides the aliment contained in his stomach, a great quantity of phlegm, so large, that the human stomach could scarce be thought capable of

“ of holding it. Immediately after the  
 “ senses returned, and being refreshed  
 “ with a pleasant sleep, was perfectly re-  
 “ covered.” Nor is it to be wondered at,  
 for if the symptoms arose from a mecha-  
 nical cause, they would give way to a me-  
 chanical remedy.

Hence it is evident, that accumulating  
 juices, distending the substance of the  
 brain, and obstructing the nervous fluid\*,  
 bring on the symptoms we shall describe;  
 otherwise how comes it to pass that eva-  
 cuations give relief? When the fluids  
 are confined within their own proper  
 vessels, it is possible to remove the ob-  
 struction, and render the vessels pervious,  
 and we, by this means, bring about a  
 cure, that would not happen were the  
 fluids out of the course of circulation;  
 for I verily believe, whenever extravasa-  
 tions of blood happen in the head, in any  
 considerable quantity†, and are not dis-

\* Med. Surg. vol. i. p. 168.

† Small quantities of blood may perhaps sometimes  
 be diluted by lymph, and absorbed.

covered,

covered, and let out by a proper opening, there is inevitably an end of the patient, after some time\*.

Nor do we, by this way of reasoning, annul any observations we have made respecting extravasations upon the brain; extravasation and obstruction being very different things. The one takes off distention, and the other occasions it, as is evident from the cases recited in the first section; and we now will add two more to elucidate this point.

Difference betwixt extravasation, and obstruction in the head.

## C A S E VI.

A man betwixt twenty and thirty years of age, being near the limekilns at Ticknal, was knocked down with limestone, from a blast, and one of the parietal bones was so violently broken, that when all

\* Making an opening through the skull, is very unlikely to avail, when the extravasation arises from a tenderness in the brain, and the vessels belonging to it, owing to an internal cause.

the



the loose pieces were removed, an opening was made into the cranium, more than seven inches in circumference\*. The quantity of the cineritious part of the brain taken up from the ground at the time of the accident, filled a large pill-box, which the people had in the house, and a rough stone more than half an ounce weight, which had penetrated that substance, was removed the first dressing.

The man being unexpectedly alive, I went next morning with my son to see him, and had not I known that lacerated wounds of the substance described, would under particular circumstances, heal like wounds in other parts of the body, I should have given up all hope of a recovery, so dreadful was the aspect; but a bare possibility of success encouraged us to pursue proper treatment.

\* This large opening probably saved the man's life by preventing confinement of matter, &c.

We

We removed all the lacerated brain which lay in the wound, and upon minute enquiry, discovered a still larger piece of stone forced lower down, which was extracted by a pair of forceps. Much more of the cineritious substance was discharged, in the matter the ulcer afforded at each dressing for some time, but at last the ulcer became clean, and healed, leaving an hemiplegia on the contrary side to that on which the accident happened. Insensibility, stupor and sleepiness immediately followed the accident, but gradually went off in a few days without one true apoplectic symptom happening; whereas if instead of being extravasated and discharged, the fluids had been obstructed and accumulated within the vessels belonging to the brain, a coma\*, and death would most probably have been the consequence.

We have before observed †, that the cineritious part of the brain has the ap-

\* See coma.

† Med. Surg. vol. I. p. 170.

pearance of doing the office of a gland, and this instance among many others proves that a great part of it may be bruised and torn to pieces without destroying life, or bringing on those symptoms which shew themselves when the medulla cerebri suffers any kind of irritation. Whence we are again led to imagine that apoplexies are seated in the medullary, and palsies in the cineritious part of the brain.

#### C A S E. VII.

Another man had one of the parietal bones broken by a stone thrown at him, and pieces of bone, which were beaten inward, wounded both the dura and pia mater; but no remarkable symptom immediately followed. The trephine was applied in a few hours after the accident, the depressed bone raised, and that which was loose was taken away; after which we had a scene troublesome enough; for the resistance to the pulsation of the arteries

teries being removed, the brain was dilated and pushed out of the scull, and formed what has been called a fungus, in opposition to the leaden cullendar, recommended by various writers on this occasion. This daily grew larger; the practice of paring was pursued for some days, but it occasioned disturbance without any advantage, for after all, in a week or ten days, it increased to the size of a large penny loaf, and exhibited a dreadful rising, and expansion at each pulsation, and yet the man appeared better in health than it was possible to expect.

I plainly saw, that paring off part of the dilated brain would do no good, and probably in the end destroy the patient; and dreading the consequence of putrefaction, which in such a case I had seen fatal, I ordered compound tincture of myrrh, and lime-water, equal parts, to be applied, as an astringent antiseptic. *Thick dossils* of lint, with as much of this mixture as they would hold, were applied twice a

F 2

day,



day, and from this time the increase of the tumor ceased. In less than a week it put on a most healthy appearance, and was somewhat reduced; and in about a month it had gradually diminished, without any remarkable suppuration, or any separation, till it intirely sunk into the scull, and the man is perfectly well at this day; whereas, had the fluids, instead of being discharged, been confined within their vessels, I do not doubt but a fatal termination would have happened.

### C A S E VIII.

The following case and those recited are sufficient to shew what kind of disorder I am treating of, when the humors are accumulated in the vessels of the head without extravasation; the attending symptoms, and the intentions of cure; which may be extended, if necessary, by cupping, and by such other methods, as have been found by experience capable of removing plethora, and making a derivation

Cure.

Cupping.

tion

tion from the head without increasing the circulation.

A tall and very corpulent gentleman, more than sixty years of age, who had lived freely in eating, but without any kind of debauchery in drinking, was upon taking cold seized with a sort of indolence, or inactivity of mind; sleepiness, dulness, and pain in the head followed. Soon after he became delirious; lay almost insensible, without snoring, but in a deep sleep; and though he shewed some signs of sensation upon being stirred, he immediately fell again into the same state; his pulse was full and about ninety, but not in that disordered state, so manifest in the nervous apoplexy; nor was his countenance relaxed or changed.

He was bled freely, purged for several successive days with saline purges; other *Instance,* saline deobstruents were given; a large blister was applied to his head, and a recovery was the consequence.

Our intention will be obvious to those who attend to the manner in which these remedies were employed; for much often depends on the way in which they are used. Bleeding, it is agreed, takes off distension by emptying the vessels, thins the blood, somewhat perhaps cools it, and of course must be useful where blood abounds, especially where its motion, from vigor, is too rapid, or sluggish in consequence of plethora, and should under such circumstances first take place. In the instance before us it may be used with greater freedom, because the nerves are not in a state to receive injury from a loss of blood. Nevertheless, we should not, in the manner of some, depend wholly on this evacuation; for the arteries adapt themselves to the quantity of blood moving through them \*, and a brisker

\* Whoever has a mind to inform himself in this matter, should attend a slaughter-house, and persuade the person who kills sheep to divide the carotid arteries cross ways; by which means he will acquire clearer ideas than words can express.

circulation

circulation is still carried on, than is consistent with the welfare of the patient; and were we to pursue venesection till this was subdued, we should probably, as I have seen, leave the patient in an incurable state of debility.

Is it not sufficient if we take off the distension in the blood vessels, and then immediately proceed to purging? Nor is there any remedy, which so effectually relieves an inflammatory redundancy of blood, or other humors about the head, as Dr. Friend has long since observed. I agree with those who think it not prudent to apply blisters in great inflammation, before these evacuations are made, as they may at first increase it, and determine the fate of the patient, before any material discharge from the vessels in the neighbourhood of the part can take place; whereas, when the vessels are somewhat unloaded, blisters may, and I believe do, assist by attenuation, &c. in removing the remains of obstruction and inflammation,



tion, without danger of those effects we have seen from their use in the nervous apoplexy; and if what is said is found to be true, concluding with some writers, that apoplexy, lethargy, carus, &c. are similar diseases, must often be productive of mischief.

Vomits,  
when im-  
proper.

It cannot be supposed, that men of sound judgment will ever think of giving vomits in the coma, we have described. It is the disease in which they have been forbid, in treating of the apoplexy, without discrimination; and it is impossible to use them with propriety in comatose affections without attending to the distinctions we have made. However, it is sometimes unfortunately out of the power of art, to give relief in this kind of coma, and I apprehend, it is from this disorder, chiefly, that the modern cause, assigned for apoplexy, has been drawn. Besides the common appearance of the vessels on the outside of the head being overloaded with blood, the vessels within the  
skull

scull are equally liable, with those in other parts of the body, to varices, aneurisms, or other obstructions of blood or serum, such as Morgagni \* has described, and these in time may bring on that tenderness in the brain he observed. Hoffman † brings evidence to prove that this is sometimes hereditary, which I can readily believe, because the offspring generally inherits the structure of its progenitor. ‡ He thinks also that every case, in which there is an effusion of blood upon the brain, is preceded by a weakness of the vessels and membranes belonging to this substance; otherwise, while they preserve their tone, it is not likely to happen. Indeed I am clearly with him in opinion, and the brain, which no doubt shares in the malady, being rendered incapable of performing its office, occasions death. Consequently the cause of death

Brain  
and blood  
vessels  
diseased  
previous  
to the  
rupture  
of the  
vessels.

\* De Sed. & causis morb.

† Hæmor. cerebri, sect. 1<sup>o</sup>. cap. vii. sect.

‡ Med. Surg. vol. 1. p. 424. vol. 2. p. 451.

is previous to the extravasation, and if we wish to be satisfied in this matter, we must look further than the blood we meet with upon opening the scull. I know indeed, that a contrary opinion has been entertained by Morgagni, who observes, " that those cases are most violent " and the soonest mortal, which have " their origin from *extravasation* within " the cranium." But we apprehend he was mistaken about the origin of the complaint, as it only follows from this account, that under such circumstances, the brain was more than ordinary in a very diseased state, previous to the rupture of the vessels; and I am persuaded, in such cases, from the facts stated, that the effect has been mistaken for the cause.

An affection of this kind, instead of being sudden, must be a work of some time; it must be gradual in its progress, and it is to be apprehended, that the disease is often overlooked, till it arrives at its final period, and we then first discover

cover what was the matter by opening the head of the dead body ; whereas, was every fulness about the vessels of the head accompanied with pain and heaviness to be attended to, we should perhaps sometimes, by proper evacuations, &c. prevent or keep back so fatal a malady.

On the contrary, a gouty, or any other metastasis to the brain, may *suddenly* bring on an apoplexy, a phrensy, or a coma, according to the manner in which the parts are affected within the scull, which the habit of the patient, and the seat of the pain, will lead us to discover ; and, when known, no time should be lost in our attempts to remove the materia morbi from a part so intimately connected with the vital principle. But of this we have already spoken in an Essay on the Gout, to which we refer the reader \*.

Gouty  
metasta-  
sis.

\* Med. Surg. vol. 1. p. 439.



## PART II. SECTION I.

## INTRODUCTION.

*On Paralytic Affections in general.*

Hippo-  
crates  
and  
Aretæus.

IT has been already observed, that in the days of HIPPOCRATES, the same general name comprehended both apoplexy and palsy; and after him ARETÆUS\* says, “that apoplexy, paraplegia, “parefis, and paralyfis, are all of the “same kind, and denote a defect of mo- “tion, or of feeling, or of both; some- “times of the mind, and at other times “of the other senses;” nevertheless, he makes a distinction between apoplexy, and palsy; for he informs us, that an apoplexy is a resolution of the whole frame, both sense, mind, and motion; whereas the palsy, in general, is only a *remission* of motion and energy †.

\* Lib. prim. morb. diuturn. cap. septimum.

† Παράλυσις δὲ ὡς ἐπὶ τῶν κινήσεων μὲν ἐνέργειός τε παρῆσις,

CELSUS

CELSUS \* tells us, when a palsy attacked the whole body, the ancients called it an apoplexy; when particular parts, a palsy; but in his time the same name was given to both: nor must we forget, that in the time of the above latin and subsequent greek writers, the word nerve was used to signify tendon or membrane, &c. and that CELSUS, in treating *de resolutione nervorum*, means a resolution of the tendons, ligaments and membranes, and not what we call the nerves; because, in his time, the tendons, &c. only had this appellation; the nerves, as they are unclassically called, arising from the brain, being then unknown, or not rightly understood †.

Celsus.

GALEN imagines the apoplexy and palsy both to arise from the same cause, because he thought them both the same disease; but AURELIANUS ‡ ingenuously

Galen.

Aurelianus.

\* Lib. 3. cap. 27.

† Med. Surg. vol. 1. p. 151.

‡ Lib. 2. cap. 1.

confesses,

Ætius.

confesses, that it is sometimes occasioned by *occult*, and sometimes by manifest antecedent causes, such as external injuries, and the like. ÆTIUS \* copies from GALEN and ARCHIGENES, and says, that in an apoplexy all the nerves (i. e. tendons) lose their sense and motion together, from a thick cold viscous humor filling the ventricles of the brain; but in a resolution (*παρελυσις*) one side only is affected, by a great quantity of thick viscous humor, which obstructs the nerves (tendons) and hinders voluntary motion; according to which account, different parts of the body were supposed to be affected with a similar flux, which, from its situation, brought on different complaints.

Trallian.

ALEXANDER TRALLIAN †, who lived before PAULUS, more fully explains this subject. He says, de paralyfi, “ the diseased resolution, which the Greeks “ have called *παρεσις παραλυσις*, is nothing

\* Secundus fem. cap. 27 & 28.

† De arte med. lib. 1. cap. 16.

“ more

“ more than a privation of sense and  
 “ motion. It differs from an apoplexy, Apo-  
plexy.  
 “ which is an abolition of sense and mo-  
 “ tion of the whole body, *with injury of*  
 “ *the first principles of life*; and thus death  
 “ happens. But a palsy is that disease, Palsy.  
 “ in which one half of the body alone  
 “ dies, or certain nervous (tendinous)  
 “ parts are obstructed, *without injury to*  
 “ *the brain or spinal marrow*,” which dif-  
 fers very much from those, who thought  
 the brain to be the seat of the cause of  
 this complaint.

This doctrine, however, did not be-  
 come general; for PAULUS \* maintained Paulus.  
 the old opinion, that this disease arose  
 from all the ventricles of the brain being  
*suddenly* filled with a cold pituita, and  
 that old people were more subject to this  
 affection than others, from being of a  
 pituitous habit of body.

These theoretical ideas prevailed many  
 centuries, with very little variation, till

\* Lib. 3. cap. 18.



Hoffman. about the time of HOFFMAN, who says,  
 “ the cause of all kind of palsies appears  
 “ to be either a solution of the continuity  
 “ of the nerves, as in wounds, or other  
 “ violent injuries, or a compression of  
 “ the nerves themselves, or their origin,  
 “ by a stagnation or extravasation of  
 “ blood or serum in the brain, or by  
 Boer-  
 haave. “ spasm.” BOERHAAVE too lays it down  
 for an axiom in one of his aphorisms,  
 that the palsy, from an internal cause, is  
 always occasioned by an obstruction of  
 the nervous fluid by morbid matter;  
 Van Swi- and his commentator affirmed, “ that  
 eten. “ whatever can attenuate this morbid  
 “ matter, so that it can be dissipated or  
 “ evacuated, or after it is attenuated,  
 “ can change its situation, so that it shall  
 “ not hinder the action of the brain and  
 “ nerves, will cure a palsy \*; which is  
 “ the same kind of doctrine GALEN and  
 “ his followers held forth, without dis-

\* Sect. 1064. This doctrine is only applicable  
 to some kinds of spurious palsy. See spurious palsy.

tion or qualification ; and upon these principles irritating remedies and deobstruents have, it is well known, been in use in every kind of palsy, as the rational method of curing this malady. Cullen \* Cullen. indeed reprobates the propriety of employing stimulants †, but joins others in opinion, that palsy is caused by compression from effusion ; which doctrine we shall presently consider.

Now the moderns agree with the ancients in there being a great affinity betwixt apoplexy and palsy, because they seize in a similar manner, and because they change vice versa from one into the other. In some instances they appear to me to arise both from the same cause, and perhaps after all, the ancients were right, and they are only different degrees of the same disease under different circumstances, though there are no diseases in which the

Modern  
opinion.

\* First lines.

† He uses this word synonymously with irritating remedies.

symptoms are more unlike, especially if we adhere to Trallian's distinction; for there is scarce any man, who does not know one from the other at first sight; and this difference, I apprehend, is owing to the manner of affection, and to the state of the body at the time it happens; a partial affection of the brain may produce an hemiplegia, as happened in the man at Ticknal, and several others we meet with, where a depression of the scull is made upon one part of the brain only; a palsy from a diseased viscera has a local origin; whereas probably an apoplexy is more general, and a more violent affection of the nerves; besides the one is of an inflammatory, and the other of a contrary diathesis, as Marinellus has long since very justly observed \*.

If

\* “ Species igitur apoplexia, sicut ex dictis accipimus, est duplex; altera acuta & calida, quæ dicitur fortis, altera debilis, diuturna, & frigida. Quare duplex humor est causa utriusque speciei: humor enim acris efficit apoplexiam acutam; crassus,

If a palsy seizes the heart in such a manner as to stop its motion, or if one of its ventricles burst, death takes place in a moment, and the patient is said to have died of an apoplexy. But this kind is very different from the nervous apoplexy, of which we have spoken, there being none of the agitation, or violent convulsive struggle usual in that complaint.

Palsy of  
the head.

If the brain is violently seized with a Head:  
palsy, and death does not immediately follow, the patient lies still and mute, and the vital principle leaves the body quietly in a few days, unless medicine interferes, or if what Hippocrates says be true, the patient is saved by the intervention of a fever \*; for this is the

“sus, pituita, & attrabilis, dinturnam.” Marinelli  
Comment. 1°. in libris Hippocrates.

\* I have never seen this verified in practice, and the few cases I have read, which were thought to be cured by fever, were evidently spurious, and the disorder capable of being removed by attenuating the fluids.



disorder, I have not any doubt, to which he alluded in the aphorism, of which notice has been already taken.

If the stroke in the brain is less violent, there are more signs of life; a state more or less betwixt living and dying, is experienced; and though the patient is not unfrequently delirious and restless, yet it is without snoring or violent respiration; nor is there that convulsive motion in the pulse common to the apoplexy.

A difference betwixt apoplexy and palsy.

There is one well known symptom, which shews a material difference betwixt apoplexy and palsy; for in an apoplexy the vital principle, as Trallian expresses it, is injured, and except the sad remains of life for a little time in the heart and thorax, sensation seems to be intirely abolished; whereas in an hemiplegia, we all know sensation often remains after voluntary motion ceases to be performed, which we may explain without the Boerhaavean

haavean hypothesis \* to account for it, by calling to mind, that the will and sensation perform different offices, and, under certain circumstances, act irregularly, independent of each other, as we see in slaughtered animals; for long after the head is cut off from the carcase, upon irritating the muscular fibres, spasms are instantly produced †; nor does this innate power of feeling vanish, till the vital principle leaves the body.

It is very well known, that a palsy arises both from external and internal causes, and these are various; most of which the Baron Van Swieten has enumerated; but we shall begin with the spontaneous or true palsy, which arises from a sudden loss of nervous power.

\* To account for this symptom, it is asserted, Aphorism 1057, that some nerves serve for the sense of feeling, and others for motion, and that the functions of the motatory may be hindered, while the nerves of feeling remain unhurt!

† Med. Surg. vol. 1. p. 165.

## PART II. SECTION II.

*On the spontaneous or true Palsy, from a sudden Loss of nervous Power.*

Seizure  
instanta-  
neous.

THE disease now before us is an instantaneous relaxation of the muscles and tendons, uncontrollable by the will, not brought on by compression, erosion, suppuration, tabes cerebri, &c. or any such mechanical cause, which occasions a spurious palsy \* only ; but by the very substance of the brain or nerves being rendered in an instant incapable of performing their offices. Sometimes the disorder makes its onset with apoplectic symptoms, and leaves an hemiplegia behind ; and we perfectly agree with Aretæus, as will hereafter appear, that the

\* See spurious palsy. Hoffman has made a distinction betwixt true and spurious palsies, but very different from that we have been led to adopt. See de morb. atonia cerebri.

true

true palsy is often only a remission of motion and energy.

The Greeks call it *παρالىσις*, the Latins *resolutio nervorum*, and the English palsy or stroke; nor must we forget to observe what was omitted in the last section, that it unfortunately happened, when the appellation *nerve* was changed from the membranes, tendons, &c. to what might properly enough have been called encephalic cords; it carried with it an idea Theory. of the same disorder, affecting these new discovered parts, which were known to affect the muscles in palsies. Hence to an immeability in the juices from viscosity; atony in the nerves, arising from the brain, was added, as one cause of the complaint. It was supposed they became relaxed and weak; and it is not at all surprizing, according to the theory of the times, that irritating remedies, and warm attenuants, should be employed upon these imaginary principles.



From  
compression.

Query.

That the cause of the incapacity in the muscles to perform their office, in some spurious palsies, is a stoppage of the nervous fluid, secreted in the brain, and carried through its appendages, the compression of a nerve demonstrates \*. But the question that remains to be asked is, where there is no extraneous or mechanical cause to intercept the nervous fluid in its passage from the brain; to what kind of affection in the nerves must this inability to perform their office be ascribed? Nor do I know of any answer further than we may suppose the brain to lose its innate power † we have elsewhere spoken of, wholly, or for a time, in the part affected, and become incapable

\* See Boerhaave's Institutes, sect. 401 and 402, where many instances are enumerated, but the common accident of the leg having a temporary palsy in consequence of pressure on the great nerves, and the prickling sensation which immediately follows the removal of pressure, is sufficient.

† See Med. Surg. vol. I. p. 171.

of

of being actuated by the agent that gives motion to nature †.

C A S E I.

A man about forty years of age, used to hard labour, and of a strong habit of body, complained of a sickness at his stomach, and a dizziness in his head; wherefore, as his pulse was regular enough, I ordered him a vomit, and some stomachic purging pills; and he got well. About a year afterwards he was seized with the same complaint, and not having an opportunity of seeing me, he sent for a man that could bleed, who took from him about ten ounces of blood; an hemiplegia on the contrary side to that on which he was bled was the immediate consequence, from which he recovered in a very little time, by opening his bowels occasionally, and by the use of cordials, especially wine, and a nourishing diet;

† See Med. Surg. vol. 1. p. 299, & seq.

and

and who can tell how this hemiplegia, from a general loss of blood, happened? Even the cause assigned by Monro \* for hemiplegia, though it accounts for the disease, when occasioned by a partial affection of the brain †, does not explain this matter. Muscular ‡ spasm may be supposed, but the disorder being local, embarrasses the supposition, reduces it to a mere conjecture, and we wish to see conjecturing, as much as possible, abolished from the science.

Indeed I am convinced with FONTANA, that in the living body there are unknown powers, and latent principles, of which we are yet ignorant, and the only use we can at present make of this case, is to observe, that a palsy may arise without compression, obstruction, or viscosity, &c. in the nerves; and we believe, whenever viscid lymph is found about the nerves,

\* Obs. on Nerv. Syst. chap. xi. p. 53.

† See back, p. 85.

‡ See p. 38.

in palsies of long standing, it is a natural consequence of the disease.

Nevertheless, though we cannot at present prove what kind of derangement the nerves undergo in a *true palsy*, yet we may observe it resembles a blast, whose effects we know, without being able to discover the change that produces them.

This kind of derangement difficult to prove.

## C A S E II.

Many years ago four children of the same village in Nottinghamshire, about seven years of age, were in the spring of the year seized in one night, while in bed, with the palsy. Three of them with an hemiplegia; two of whom died soon after, and the third went upon crutches the remainder of her life. But the man, who gave this account, now advanced to seventy years of age, lost only the use of one arm, while sleeping in bed betwixt two other people, who did not experience any injury. The arm is greatly emaciated,



emaciated, perfectly motionless, but very warm and sensible, in a fine state of perspiration when I saw him; and the pulse is as strong and frequent in this, as in the other. He believes his arm was not uncovered when the disease took place, and he remembers it was not very cold weather: whence it seems to appear, that the affection was owing to a particular state of the air, and to a disposition in the habit to receive the impresson it made. The man has always imagined his palsy to be occasioned by a blast, and who can say to the contrary? I trust, however, we shall be able to shew, that it is not a disease of the fluids, but of the brain itself; that the distinctions above made are necessary, and when further explained, we apprehend will be sufficient for every purpose in practice.

Apoplex-  
ies and  
palsies  
change  
into each  
other.

We have already observed, that apoplexies change into palsies, and vice versa; the patient is not unfrequently dispirited; the muscular fibres, in the affected part,  
are

are often, if not always, excessively irritable; irritation of the nerves of the primæ viæ, or of the other viscera in the abdomen, will bring on an hemiplegia; blisters sometimes seemingly increase the disease, and opium relieves or cures it; all which will appear as we proceed; and from whence some conclusions will be drawn; but having no predilection in favor of any theory, we only mean to substantiate facts, and leave the rest to the reader.

Perhaps, what is hereafter advanced may give some light in what manner the inability of the nerves, to perform their office in this kind of palsy, brought on by what has been called a stroke, is occasioned; for we apprehend, practical hints, by determining a proper method of restoring the nerves to a state of health, may develop the nature of the complaint. For which purpose we will give a faithful account of those remedies we have found  
most

most successful, or the contrary ; and the following narrative will shew the manner in which we have been led on, step by step, in the use of opium, and other stimulant sedatives.

PART

PART II. SECTION III.

*On the Cure of the true Palsy.*

WE have just observed, that the disease under consideration, is an affection of the substance of the brain itself, whether in the head, or in the nerves; in consequence of which it ceases to be a conductor of that power, which occasions muscular motion; nor will even giving motion to the fluids, which belong to the nerves, relieve this disease, till they themselves are restored to their own power, as the application of an electrical machine, which increases the motion of the fluids in every kind of conductor, evinces \*.

True  
palsy,  
what.

It follows then, to relieve the patient, we must apply to those remedies, which act principally upon the brain and nerves;

\* It has no apparent effect in a true palsy; but to understand this passage properly, it must be contrasted with what will be hereafter said of the spurious palsy.

and



and being convinced, that those which irritate increase, and that opium relieves the complaint, I was led to conclude, that irritating remedies were not apposite to the cure of this malady, and ought not to be admitted; and that those things which animate the nerves, and quiet the derangement they suffer, were more likely to do service.

Now by animating remedies, we mean those we alluded to in our definition of stimulants, being of the same class; but we have chosen the above name, that they may not be connected with old ideas; and we will now particularize some of them.

Opium stands first; but its cordial, exhilarant, and sedative powers are so well known, as to make any explanation unnecessary. If the tar ointment of the dispensatory, preceding the present, is applied to sores, it occasions a smarting, when it first comes in contact with the bare nerves; probably by the penetration  
of

of the essential oil it possesses, which must be distinguished from irritation, because it neither inflames, nor occasions a greater secretion of lymph, but on the contrary restores the part, if more sensible than common, to its natural sensation. It gives life and vigor to inactive muscular fibres, which are uncovered, seemingly by a genial warmth, and in consequence promotes incarnation. When taken inwardly it allays spasms, and perfectly corresponds with its external effects.

The same may be said of balsam of Peru, of balm of Gilead, and many other of the native balsams. Harris \* says he has seen admirable effects from the Terebinthina Chia in this complaint; and from hence our idea of animating medicines, in the present instance, may be understood. The warm, sedative gums have a similar effect on the nervous system; and besides these, we have recourse to æther, camphor, the essential oils, steel

\* De morb. gravid. vel Allen's synopsis, art. 343.

wine, rosemary, valerian, madeira, and such like remedies, in the cure of this malady; but previous to their use, the state of the primæ viæ should be attended to, this being often the seat of the disease; and our first step, in every instance, should be the common practice of giving a vomit; and this having had its proper effect, stomachic purges should be given sufficient to scour the alimentary canal, interposing every evening, after the operation of this medicine, an opiate to quiet the nerves.

In a few days we see the ground we stand upon; and if these evacuations produce a clearness of understanding, it is reasonable to conclude, that the nerves of the stomach, being offended, gave rise to the complaint, by that wonderful connection with, and influence they have over, the whole body; and if voluntary motion, though ever so little, appears in the affected limbs, there is hope of a more perfect recovery.

Signs of  
recovery.

On

On the contrary, if the intellects remain greatly impaired, after proper evacuations from the primæ viæ, especially if accompanied with a pain or numbness in the head on the opposite side, there is reason to think the seat of the disease is in that part; and it is in this instance, that the patient too frequently drags on a miserable life, with the loss of memory, &c. and when death takes place, the brain is generally found in a morbid state, as we learn from Morgagni's dissections\*.

Contra-  
ry.

These things being premised, we will adduce some of the cases which led us to the use of opium, &c. in the cure of apoplectic and paralytic affections.

### C A S E III.

In 1772 I was desired to attend a gentlewoman betwixt sixty and seventy years of age, who had long been troubled with an hemiplegia, and for some time with a

\* *Epistola* 11, lib. 1.



small inflamed ulcer, a little above the ancle of the same side. The leg, as well as the arm, was perfectly motionless, but possessed feeling and moderate warmth; the sore was so extremely sensible and irritable, and attended with such exquisite pain, that she could neither get rest night nor day; and whenever the sore was touched with lint to take up matter, though in the most gentle manner, the whole side of the body, as quick as lightning, was seized with violent spasms.

The sensibility of the affected part pointed out that anodynes were proper, whether they suited the theory of the times respecting palsies, or not; and I therefore ordered her twenty drops of laudanum, twice a day, while the pain required it; taking care at the same time that she did not become costive. Laudanum was also mixed with the sedative balsams that were used to the sore; and to the parts about the ulcer the sticticum, a little softened with oil, was applied;  
by

by which both the pain and extreme sensation were conquered, and the fore cured. Nor did we with less pleasure behold an amendment of the paralytic side, for her leg and arm, though they did not get perfectly well, recovered very much. The spasms had entirely left her, and her health and faculties were greatly restored, so that she enjoyed several years the remainder of her life comfortably.

This was the first hint I had of the use of opium in this disease. I have since given it frequently in palsies, and under the restrictions we shall hereafter have occasion to mention, I think often with success, without setting down to the account every recovery I have seen happen; knowing very well, that palsies will often spontaneously leave the patient without medical assistance. But of this I am certain, if opium fails to relieve the patient, he will meet with no injury from its use. Nor am I quite singular in this opinion, for in a kind of paralytic affection of the

arm, where Dr. Charlton \* gave four grains of opium a day, with assafœtida, a long

\* This case I think belongs to the class of shaking palsies, and we will give an abstract of it, as it is curious. " Mary Ford, of a sanguineous and robust constitution, had an involuntary motion of her right arm, occasioned by a fright, which first brought on convulsion fits, and most excruciating pain in the stomach, which vanished on a sudden, and her right arm was instantaneously flung into an involuntary and perpetual motion, like the swing of a pendulum, raising the hand at every vibration higher than her head; but if by any means whatever it was stopped, the pain in her stomach came on again, and convulsion fits were the certain consequence, which went off when the vibration of her hand returned."

" During sleep the motion of her arm ceased, but the instant she awoke (and she was always awakened by pain in the stomach) it returned and continued without intermission the four and twenty hours."

" She was a patient in the Exeter infirmary nine weeks without relief. She drank the Bath waters, and bathed in the Bath about one month without amendment; upon which she took a medicine, composed of assafœtida and opium."

" She

a long time together, he observed it neither occasioned drowsiness, relaxation of the solids, nor any defect in the performance of those functions on which health depends; and the reader will judge for himself, whether the opium had not a principal share in the recovery of this woman †.

CASE

“ She began with a grain of opium every day,  
“ and gradually increased the quantity to four grains  
“ in the same space of time; but this, while she  
“ continued another month under a course of bath-  
“ ing, did no good. On the contrary, those days  
“ she went into the bath, her spirits and strength  
“ were much weakened; wherefore the bath was  
“ disused, and her back only pumped upon every  
“ or every other day, as long a time as she could  
“ bear it. Drinking the waters, and her medicines,  
“ were continued; for the effects of opium above-  
“ mentioned were observed, and by this method in  
“ three weeks she began to amend, and soon after  
“ got intirely well.”

Charlton on Bath Waters, p. 53. & seq.

† Dr. Falconer, who has had many opportunities of seeing paralytic patients, in a very late publication informs us, “ that he is convinced, from repeated



## C A S E IV.

A gentleman, more than fifty years of age, low in stature, and fat, with a pulse rather full, subject to the gout, and who indulged in high living, was seized with symptoms of an apoplexy, that soon degenerated into an hemiplegia, which left him in a short time, as he himself informed me, and he continued three or four years without any return of the disorder. Nevertheless, one day after dinner he was seized with a dizziness in his head, and wildness in his looks, and being almost choaked, fell down convulsed.

“ experience, that however appearances may be  
 “ against the use of opium in palsies, they are fal-  
 “ lacious; and that opium, when indicated by pain,  
 “ spasm, uneasiness, or other troublesome symptoms,  
 “ may be employed with as much safety in a palsy,  
 “ as in any other complaint. The Turks, who in-  
 “ jure their health so much by opium, do not more  
 “ frequently die of palsies than other people.” Mem.  
 Med. Soc. Lond. vol. 2. This is a full answer to  
 Young on Opium.

Having

Having dined with him, I was present, and immediately got down a bafon of camomile tea, ready upon another occasion, which vomited him freely, and he was soon much better; but a pain remained in his head, his pulse was full, and much agitated; and notwithstanding he was purged that night, and next morning, a paralysis on one arm came on; of which, together with a pain in the head, he recovered in less than a week, while he was taking a grain of opium every night at bed-time.

About a year after this he was seized, as I have been informed, with another fit, soon after he was got into bed. By a great effort he arose, but expired almost immediately. Nor is it possible to have a clearer instance of an apoplectic diathesis, and of the effects of irritating or offending the nerves of the stomach in such a habit,

CASE

## C A S E V.

Another gentleman, about fifty years of age, of a gouty habit, though temperate in his way of living, and not corpulent, being at his writing-desk soon after dinner, felt, as he expressed it, a rushing into his head, and soon became dizzy. He had just time enough to alarm the family, who came to his assistance, and found him dropped down upon the floor apparently dead; nevertheless he soon became better, and very well knew the people about him; but there remained a great pain both in the fore and back part of his head; upon which his apothecary took a small quantity of blood away, and cleared the primæ viæ both by purging and vomiting, but without effect; for the pain in his head continued, and he now perceived a numbness in one hand, a spasmus cynicus (I suppose from the stroke affecting some particular nerves serving

serving the head) in a small degree shewed itself, the eye-lid became weak, and the eye on that side the face watered.

I now saw him for the first time; his pulse was ninety, and I ordered him some James's powder, which, though it operated by stool, produced no other effect. Twenty drops of laudanum were then given, which relieved him; and afterwards, by taking a grain of opium, with a scruple of gum sagapenum, and a drachm of æther in a draught twice a day, keeping his bowels open, the nervous symptoms were all removed, his pulse was soon reduced to seventy, and the bark, gum pills, and opium, restored him to perfect health.

#### C A S E VI.

A gentleman about the same age was seized with a giddiness in his head, and fell down, but after some time his senses returned, and he was found to have lost the intire use of one side. His apothecary  
having



having purged him, I began with ordering a scruple of Dover's powder to be taken at proper distances; and by such time he had taken three or four doses, the effects of the opium were powerfully evident, which being laid aside, he awoke with a clear head, and the use of the limbs very much restored. As he had not had a stool during the exhibition of the opiate, his bowels were opened. He afterwards went on with twenty drops of laudanum every night; and under the use of the animating gums in the day-time, joined with æther and opening medicines, he perfectly recovered the use of his limbs.

Unfortunately he was now seized with a fit of the gravel, a disease to which he had been subject. This, as I afterwards discovered, brought on, no uncommon symptom, a delirium, which was ascribed to debility, &c. and the apothecary, who alone had the management, supposed a fatal

fatal termination would be the consequence; but a discharge of six stones, some of which were of a large size, removed the symptoms that threatened immediate danger.

Previous to this in my absence a consultation was proposed, and late one night I was desired to meet two more physicians in consultation next morning; but being engaged a great way from home, I did not know any thing of the appointment till the time was over, and one physician only attended, who took the patient into his own hands; but he was so well recovered upon the passing of the stones, that he recommended a journey, more than an hundred miles, to Bath, which was to take place the beginning of the following week, after he had seen him, and prescribed for him again. But the directions given were not attended with an happy issue, his journey being prevented by a return of the palsy; and,

I am

I am well informed, he was blistered \*, and died.

### C A S E VII.

A gentleman's butler was seized with a violent spasmus cynicus, accompanied with great pain in the head, just under the lower edge of the temporal muscle, on the contrary side to that on which the lips were preternaturally drawn. To allay this symptom, snow, ice, and salt mixed, had been repeatedly applied on that side the head, but without any good effect. On the contrary, there followed a great suffusion of blood in the vessels of the tunica adnata of the diseased eye, and the lower eye-lid was drawn a considerable way down the cheek. Various remedies, I was told, had been used, but apparently without any advantage; and I had a fair opportunity of trying whether opium would be more successful.

\* General practice sanctions this proceeding, but whether right or wrong time will discover.

We

We began with a purge, and this having done its office, recourse was had to pills composed of the gum pill, extract of bark, Pill Rufi, of each one drachm, and opium twelve grains made into thirty-six pills, four of which were taken twice a day, together with three tea spoonfuls of a mixture composed of equal parts of æther and chalybeate wine, and his face on the affected side was rubbed with æther alone. In the space of a week he was better, the pain in his head, which had not yet left him, was diminished, and the diseased muscles had manifestly gained strength, because the lips on the opposite side were less contracted; and every time I afterwards saw him, I could perceive a considerable amendment. But though he continued to get better, he became tired of medicines, and left them off; nevertheless he recovered in a moderate space of time, and he is now amazingly well in his constitution, and the deformity of his face is removed.

CASE



## C A S E VIII.

The following case, though not strictly a true palsy, was owing, in all appearance, to a derangement in the substance of that part of the brain, extended to the lower parts of the body; and as it finally gave way to the same treatment, we place it in this class. It is taken from the diary of Mr. Salt, the younger, of Lichfield, to whose accuracy and attention we are greatly indebted, as it is a good instance of the different effects of irritating, and stimulant sedative remedies in paralytic affections.\*

\* It is worth considering how far the derangement of the brain in concussions, and in the true palsy are similar. They resemble each other in some particulars; and perhaps the inquiry might throw a light upon the subject, if any thing certain could be discovered. According to Bromfield they are cured in a similar manner, and if his observations are confined to concussions alone, perhaps they may be properly applied.

On

*On a paralytic affection from a concussion  
of the spinal marrow.*

“ September 22d, 1786, William  
“ Simms, a strong, healthy man, forty  
“ years of age, was thrown from his horse,  
“ and fell with considerable force upon  
“ his posteriors. He soon complained  
“ of violent pain in the lumbar region,  
“ darting pains down the thighs, of a  
“ want of sensation, and a numbness in  
“ the lower extremities, which were cold;  
“ the right leg was the least affected, and  
“ his pulse was small and slow. Ten  
“ ounces of blood were taken away, and  
“ a spirituous embrocation applied to the  
“ loins, though there was no external  
“ appearance of contusion.”

“ 23d. There was no alteration in the  
“ symptoms; he had not yet had any  
“ inclination to make water, or to have  
“ a stool; he had little sleep only in the  
“ night, but his pain diminished upon  
“ going into a warm bath. Eight grains  
“ of calomel were now given, and a dose

“ of a strong purging mixture was or-  
“ dered to be taken every two hours, till  
“ it opened the bowels. Upon exami-  
“ nation in the afternoon his bladder was  
“ found, when he lay upon his back, in  
“ a flaccid state, and to extend to the  
“ navel. As he had not yet had a stool,  
“ ten grains more calomel were given,  
“ and a stronger purging mixture; for  
“ the sphincter ani was so perfectly re-  
“ laxed, that clysters could not be re-  
“ tained; and though three pints of dark  
“ coloured urine were taken off from the  
“ bladder, it was necessary to press upon  
“ the abdomen, to force it through the  
“ catheter. It was discovered that the  
“ urethra was perfectly void of sensation,  
“ and having his mind much depressed,  
“ a cordial mixture was ordered.”

“ 24th. He felt griping pains in the  
“ upper part of his bowels only, (where  
“ he knew by his own feelings, that the  
“ shock had not extended) and had many  
“ stools, but without the least knowledge  
“ of

“ of their coming away. Nevertheless,  
“ his pain was rather diminished, and  
“ his legs acquired rather more sensation,  
“ but he was still depressed; upon which,  
“ a nutritive diet was ordered, the cor-  
“ dial repeated, his water was again  
“ taken away by the catheter and pres-  
“ sure, and twenty drops of laudanum  
“ were given him at bed-time.”

“ 25th. He had a greater degree of  
“ sensation, and moved his legs freely,  
“ but his water was still obliged to be  
“ taken away by the catheter and pres-  
“ sure. The urethra and rectum were  
“ perfectly relaxed and insensible, his  
“ spirits rather amended, but he had no  
“ stool to-day.”

“ 26th. His pulse was only fifty. The  
“ purging mixture was repeated; he had  
“ several involuntary stools; his urine  
“ was removed by the catheter, &c. and  
“ the anodyne given at night.”

“ 27th. A degree of contraction was  
“ observed in the urethra and sphincter



“ and. In addition to the cordial mixture, and anodyne draught at night, “ twenty drops of tincture of cantharides “ were ordered, to be taken every eight “ hours.”

“ 28th, 29th, 30th. The symptoms “ continued without alteration. The “ same treatment was pursued, except “ that the dose of tincture of cantharides “ was increased to thirty drops. He had “ now involuntary stools, and these only “ when he took the purging mixture. “ His urine was still obliged to be taken “ away in the usual manner every day.”

“ Oct. 1, 2, 3, 4, 5, and 6. No sort “ of alteration; wherefore the dose of “ tincture of cantharides was increased “ to forty drops each time. Nevertheless, “ the rectum was once so distended with “ indurated fæces, that they prevented “ the introduction of the catheter into “ the bladder, till they were scooped “ away, of which operation he was perfectly insensible; therefore a large blister “ ter

"ter was applied to the upper part of the  
"os sacrum."

"7th. The medicines last prescribed  
"were continued."

"8th. He complained of fulness in his  
"bladder, lancinating pain in the ure-  
"thra, and a smarting after the use of  
"the catheter. His medicines were con-  
"tinued, but the dose of tincture of can-  
"tharides was increased to a drachm,  
"upon which his pulse became more  
"frequent, and the sphincter ani con-  
"tracted."

"9th. No alteration. Feeling a disa-  
"greeable sensation in his bowels, the  
"calomel and purging mixture were re-  
"peated, but the stools were still invo-  
"luntary. Upon introducing a finger  
"into the anus, the inner coat of the  
"rectum was found to be much thick-  
"ened."

"10th & 11th. He perceives his stools,  
"when coming away, can assist in pro-  
"truding them, and his water frequently

“ comes away upon coughing. Draughts  
“ with bark and canella alba ordered.  
“ The tincture of cantharides continued.  
“ The opiate increased to twenty drops of  
“ Thebaic tincture every night.”

“ 12th, 13th, 14th. But little altera-  
“ tion, excepting that much less of the  
“ cathartic mixture purges, but his urine  
“ comes away involuntarily.”

“ 16th. Till this time the medicines  
“ have been continued, but no alteration  
“ in the patient.”

“ 28th. He had now stools without  
“ cathartics, the rectum had recovered its  
“ sensation and contraction. He voids  
“ urine frequently, by compressing the  
“ bladder strongly with the muscles of the  
“ abdomen. He can walk with crutches,  
“ but his toes are much contracted.”

“ The tincture of cantharides increased  
“ to two drachms at each dose, and a  
“ large spoonful of mustard seed was  
“ given every morning.”

“ Nov.

“ Nov. 1st. By strongly contracting the  
“ abdominal muscles, he could void his  
“ urine. He continued the bark and  
“ the opiate every night for some time,  
“ and by degrees acquired considerable  
“ strength and spirits. Costiveness now  
“ being his chief complaint till Sept.  
“ 28th following, when he had the mis-  
“ fortune of losing his wife, which great-  
“ ly affected his spirits, brought on a pain  
“ in his back, a diminished sensation both  
“ in this part and the lower extremities,  
“ and a suppression of urine, which was  
“ removed by the catheter, and taking  
“ cathartics. His mind was much de-  
“ ranged, and wracked by false notions.  
“ He was almost constantly in a profuse  
“ perspiration, and complained much of  
“ thirst, horrors, and inward heat.”

“ Valerian, bark, guaiacum, &c. were  
“ given, and a blister was applied to the  
“ back. Afterwards his fœces came away  
“ involuntarily.”

On Dec. 8th I saw this patient, and



had the pleasure of meeting Dr. Jones, who had attended him some time. We found his spirits much agitated, his pulse low, betwixt sixty and seventy, and he got but very little sleep. He could not have any stools without the assistance of art, and found great difficulty in making water. His toes were still contracted, he had very little use of the lower extremities, and apparently the paralysis was again approaching with rapid strides.

Upon entering on the business, I gave the doctor a short sketch of my ideas about the cure of palsies, and we ordered the following medicines.

R	Aq. Puleg. Simp.	—	3 x
	Gum Sagapeni	—	3 i
	Ætheris Vitriol	—	3 i
	Tinct. Theb.	—	gt. x

fiat haustus ter die sumendus.

R	Petrol. Barbados	—	3 iv
	Spt. Sal. Ammon.	—	3 iv

fiat litus, quo embrocetur spina dorsi  
semel vel bis die.

Mr.

Mr. Salt told me, " that after taking  
" the draughts a little time, his mind  
" became more serene, his pulse stronger,  
" his stools and urine regular and volun-  
" tary, his pain ceased, and the sensa-  
" tion of the lower extremities increased.  
" He perceived no other sensible effect  
" from the medicine than a degree of  
" drowsiness ; and being continued until  
" January 25th 1789, he had no com-  
" plaint left."

Perhaps the irritating plan, recom-  
mended so often in paralytic affections by  
men of the first abilities, never had a  
fairer trial ; and we have copied the nar-  
rative at length, as we shall hereafter  
have occasion to make use of it. At pre-  
sent, however, it must be observed, the  
first relief the patient received, though  
small, was from the warm bath, and  
purging ; but much more benefit was  
derived from the opium given on the  
24th ; for on the 25th he had a greater  
degree of sensation, and moved his legs  
freely ;

freely; and on the 27th, after another dose of opium, a degree of contraction was observed in the urethra and sphincter ani; and how far the opium, which was given every night, and bark, contributed to the first recovery, deserves consideration.

*On a shaking palsy, apparently from worms.*

#### C A S E IX.

A poor boy, about twelve or thirteen years of age, was seized with the shaking palsy. His legs became useless, and, together with his head and hands, were in continual agitation. After many weeks trial of various remedies, my assistance was desired.

His bowels being cleared, I ordered him a grain of opium a day in the gum pill; and in three or four days the shaking had nearly left him. By pursuing this plan, and keeping his bowels open,  
he

he could soon walk, but was incapable of speaking a single word for several weeks afterwards; in which time his father told me, that many small worms crept from him every night when in bed. Upon this information I ordered some calomel, &c. but he did not take it, and got well by the medicines he was pursuing, which, in this instance, proved a vermifuge. The last time I saw him, I had the pleasure of hearing him talk very well, and of seeing him perfectly restored to health. A curious instance this of the effects of irritation in the bowels, of the power of opium in animating the nerves, and of rendering them insensible to the offending cause, where the bath waters most frequently fail.

These are a few of the trials I have made, and I am so well convinced of the good effects of opium in the cure of the *true palsy*, that I now order it without hesitation, much in general to my satisfaction.



faction. But I do not think large doses are at all necessary; two or three grains in the space of twenty-four hours appearing to me to be fully sufficient where it is capable of doing service.

PART

PART II. SECTION IV.

*On spurious Palsies.*

**I**T has already been observed, that a true palsy is owing to some kind of derangement in the substance of the brain itself, from an instantaneous or sudden alteration that occasions its ceasing to be a conductor of the powers of motion. On the contrary, the spurious palsy, unless from accident, or metastasis of morbid matter, attacks gradually more or less. It is the palsy the Baron Van Swieten every where treats of, and to which his theory and practice can only be applied. The brain, in the affected part, continues in the enjoyment of its powers, but is interrupted by some mechanical cause, as is evident from the palsy ceasing upon such cause being removed. This is daily experienced in every paralytic affection arising from pressure. And we may further

Difference between true and spurious palsy.

further observe, that in the true palsy we have often much assistance from the spontaneous efforts of nature without the help of medicine ; whereas it more commonly happens in spurious palsies, that the extraneous impediment to a cure must first be removed by art, before nature can give her assistance.

## C A S E X.

A miller's lad, being thrown from his horse, received a partial dislocation of the neck, and a paraplegia \* was the immediate consequence ; but his neck being pulled strait two hours afterwards, the use of his limbs soon began to return, and a perfect recovery followed bleeding, and the use of topical applications to the bruised parts.

\* This word I see is used in different senses. Aretæus says, “ it is an affection of the sense of touch “ or motion in one member only, such as the hand “ or leg ;” we have here used it in the more common acceptation, *a palsy of all the parts below the neck.*

## C A S E

C A S E XI.

A mandrel falling down the shaft upon a collier's head, who was at work, fractured his scull, and depressed a considerable portion of bone. An hemiplegia, with the loss of sight of the eye on the *same side* as the injury, were the consequence; but upon removing the pressure by taking away the bone, his eye-sight and limbs were restored. Which common cases we introduce to point out, that we have nothing more to do in recent paralytic affections, arising from obstruction or compression, where the substance of the brain is not injured, than to remove the extraneous cause of the disease; which we will illustrate by a few instances.

C A S E



*On a paralytic affection arising from cold  
and damp.*

C A S E XII.

Palsy  
from  
taking  
cold.

A boy about fifteen years of age, at Neatherfeal, had been inoculated for the small pox; and having but about ten pustules upon him, went out at the height of the disease in the latter end of June, or the beginning of July, to harvest work; but finding himself not well, while loading hay, was ordered home. He stopped, however, in his way, and laying himself down upon the grass in an open meadow, fell asleep, and received upon his body, being almost naked, a misting rain for several hours, till he was found senseless, and nearly dead. His pulse was very feeble and slow; his limbs were perfectly cold and useless; when lifted up, his head fell down, like a man newly dead; his tongue hung out of his mouth; he flavered much, and appearing so lifeless, there was but little prospect of his recovery.

He

He was, however, well rubbed with warm flannel, assaetida clysters were given, a blister was applied to his back, the cordial confection, dissolved in a volatile julep \*, was forced down by the help of a spoon with difficulty by a little at a time; when he could swallow better, warm posset drink was now and then given him; and as soon as possible a warm purge; which means produced a moisture on his skin, and he recovered, so that in a week he seemed to be out of danger, and in a short time got perfectly well.

## C A S E XIII.

"A lusty and healthy young man,  
"aged twenty-one years, being violently  
"heated, threw himself on the ground,  
"and fell fast asleep. He was found,

\* R Aq. Menth. Pip. ℥ iv

Spt. Minder. ℥ ii

Sal. Vol. c. c. gt. xx

Sacchar. alb. ℥ ii

fiat julepium.

K

" after

“ after some hours, utterly incapable of  
“ voluntary motion, senseless, with great  
“ coldness of the limbs, and surface of  
“ the body ; he was deprived of the  
“ power of speech, and his water flowed  
“ involuntarily. He was bled ; a purge  
“ was given him, and a blister placed  
“ upon his back ; notwithstanding which,  
“ a very considerable degree of stupor,  
“ frequent unequal respiration, and a  
“ pulse slow and full remained.”

“ Upon this, March 28th, stimulating  
“ clysters were administered, the whole  
“ head was covered with a blister, a  
“ strong volatile liniment was applied to  
“ the pubis, to the spine of the back,  
“ and to the lower limbs. A bolus, con-  
“ sisting of volatile salt, and cordial con-  
“ fection, each one scruple, and one grain  
“ of cantharides, was given every six  
“ hours, and washed down with a strong  
“ infusion of valerian, horse radish, mus-  
“ tard seed, and canella alba, but with-  
“ out any effect ; wherefore, March 31st,  
“ the

“ the volatile salt and confection were  
“ increased to half a drachm each, and  
“ the grain of cantharides was added to  
“ it as heretofore; but instead of once  
“ in six hours, it was repeated with the  
“ infusion every three hours.”

“ April 4th. After a clyster, ten grains  
“ more volatile salt, and a grain of can-  
“ tharides, were added to the bolus. On  
“ the 6th in the evening an alteration in  
“ the symptoms took place, he became  
“ restless, was able to toss himself about,  
“ and frequently applied his hand to the  
“ region of the pubis (being yet unable  
“ to speak) seemingly from its being the  
“ part most aggrieved. Nevertheless,  
“ from this time he daily amended; and  
“ with the assistance of gum guaiacum,  
“ volatile salt, cantharides, an infusion  
“ of valerian, plasters to the soles of his  
“ feet, aromatics, steel, the bark, and the  
“ cold bath, nothing on the 12th of May  
“ remained of the disease, except a trifling



“weakness of his left hand, of which,  
“he soon recovered.”

Now both these last instances seem to have been of the same sort, and to have arisen from the *vasa minima*, and the brainular system, &c. being rendered by cold and obstruction incapable of performing their office; and these impediments to a recovery were in all likelihood removed by increasing the circulation, and by rendering the whole state of the vessels pervious by the volatile salt, cordials and blisters; nor is the want of success from large doses of volatile salt, in a true palsy, any argument against their effects in the present cases. In the one, as we have already observed, animating and sedative remedies are required; in the other, acrid medicines, capable of dissolving and setting at liberty the confined fluids, are apposite assistants. Hence it follows, that the success, in the above cases, is no rule for practice in the true palsy; for these disorders differ as much  
from

from each other in their nature, as inflammatory and nervous cholics; and that which would do service in one, will do injury in the other.

It has been thought, that the recovery of the last patient was chiefly effected by the cantharides; but surely without clear evidence to support such an opinion, as when we speak of the effects of cantharides in palsies, will more fully appear. At present we shall only observe, that we do not think it possible to say what share they had in the recovery, because volatile salt and stimulants were given at the same time; and if nothing was expected from two scruples of volatile salt at a dose, why was it given every three or four hours? Indeed there is every reason to conclude, that it was a chief agent in the cure; because we see it was successful in a similar instance, where cantharides were not given; and because attenuants and deobstruents were the remedies principally required.

K 3

But

But the question is, are such large doses of volatile salt necessary, though we have seen the Baron Van Swieten set the example, with larger doses than were given in the case just quoted? To which we may answer, that much less doses succeeded in the lad at Neatherseal, and in some other paralytic affections we shall have occasion to mention. And those who are acquainted with the effects of the Bolus ad Casum of Fuller, know very well, that five grains of volatile salt, taken every four hours in Venice treacle, and washed down with posset drink, will soon raise a most profuse sweat, which, by rendering the whole state of the vessels pervious \*, accomplishes the point, which ought

\* Fifty years ago, when I first entered into the profession, this remedy was very much used after bleeding in general bruises, and I have frequently seen it produce excellent effects. When I had the care of several collieries, I often had recourse to this practice in violent bruises, from great quantities of earth or coal falling upon the men; and I think,  
from

ought to be had in view under these circumstances ; and what more is necessary ?

## C A S E XIV.

A woman took a cold in the early part of her lying in, lost the use of her legs and thighs, and they appeared to be perfectly paralytic ; but upon opening her bowels, giving a sweating julep, and applying a volatile liniment to the affected parts, she speedily recovered ; seemingly, because the whole state of the small vessels was made permeable, the obstruction removed, and the nerves, which had no disease in themselves, were left at liberty to perform their office.

from the plentiful sweat which it brought on, I have seen speedier recoveries than when Sydenham's method of bleeding and purging was adhered to alone ; though I never failed to purge the patient when sweating had done its office. And though I have modernized the practice, in consequence of what has been said about the effects of heating sudorifics, I cannot in this instance discover that I have amended it.



## C A S E XV.

A young woman, who imagined she had taken cold, but not at any particular time, was seized with a great pain in her bowels, attended with a paralysis of the lower extremities, which did not give way to calomel, and warm purges, in which there was balsam of Peru; but upon giving her James's Powder, and Mindereus's spirit in peppermint water, she sweat moderately, and was cured, probably, by some kind of obstruction being removed. Paralytic affections, from a sudden check of perspiration, &c. come under this head, and examples are unnecessary.

Rheumatism.

Somewhat similar to these are paralytic affections arising from rheumatic complaints, because they are not occasioned by any internal affection of the nerves themselves, but by glairy lymph stagnating in the lymphatic vessels about the

the nerves, the membranes, and ligaments, and in the interstices of the muscular fibres, &c. consequently the attempts to cure in this instance must be by remedies proper for the rheumatism, under its different circumstances, though opium, on account of pain, may often be an useful assistant.

Supposing the disease to be occasioned by a gradual surcharge of lymph, or, as Boerhaave calls it, of morbid matter, overloading and distending the vessels, within a portion of the substance of the brain, in such a manner as to obstruct or compress it; attenuating the fluids, and making a derivation from the affected part, must of course be a proper method of attempting a cure; and we have accordingly seen it successful under such circumstances. Or it is just the same thing, when a local palsy happens, from lymph stagnating betwixt the coats of the nerve, so as to compress it; for setting the fluid at liberty, in the manner

Compression.

we

we shall have hereafter occasion to mention, is the remedy ; nor is it necessary to notice any other examples of this kind, as they will present themselves to the mind of every intelligent practitioner ; and in speaking of the remedies in common use, the subject will naturally be resumed.

*Worms.*

We have given a case of a spurious palsy, occasioned by worms, in which opium and the gum pill cured the patient. But though we imagine opium will always be serviceable in such instances, yet we think at the same time we give opium, attention should be paid to removing the worms by the remedies proper for this purpose.

*Lead.*

We have in this neighbourhood potkilns, in which much lead is used. The workmen, who powder the scoria of this mineral, are subject to the bellon, and to a paralysis of the limbs, from swallowing the dust which arises in this operation. It is almost impossible to conceive the  
quantity

quantity of lymph, which is secreted into, and becomes ropy in the stomach, &c. and being coloured by the lead, is called by these artificers sludge. I have several times seen both the cholic and paralytic cured by repeated vomiting, and smart purges; for stronger purges are required in this instance than in any I know of. Nor is any good to be expected till the primæ viæ are well cleared. Afterwards I have given a saponaceous emulsion, composed of salt of tartar, oil, and water, by which, and the balsam of peru, whose eminent services have so often been experienced in the cholic of Poictou, the patient has frequently recovered.\* But there is an useful paper on this subject, in the twenty-second article of the first volume of the Edinburgh Essays, and observations physical and literary, to which, and Sir George Baker's observations con-

\* Other kind of poisons, when they bring on paralytic affections, besides clearing the primæ viæ, must be treated with proper antidotes.



cerning the cholic of Poictou, \* I refer for fuller information.

From affections of the viscera.

Convulsions.

Opium when to be given.

But the nerves of the primæ viæ are not only to be attended to; those in the other parts of the viscera, I am convinced, are often the seat of the disease. Affections of the liver, spleen, pancreas, and mesentery, &c. bring on paralytic affections in the limbs; and these must be treated with their own proper remedies along with opium; otherwise, though opium might mitigate the symptoms, patch-work only would be the consequence. In like manner, when a palsy arises from convulsive spasms, opium is a powerful assistant, to such medicines as are usually administered to remove the cause of spasmodic affections. In short, in the true palsy, opium is much to be depended upon, but in the spurious palsy, it is at all times only an auxiliary.

\* Med. Transf. vol. 3, p. 407.

PART II. SECTION V.

*On the common remedies in use for the cure of Palsies, and Paralytic Affections.*

THESE have already been enumerated by Cullen, \* under the name of stimulants; by which he means irritating remedies, because, he says, “ they shew “ their power by irritating the skin.” † Stimulants, according to our definition, have no such effect; and I believe, upon fair enquiry, it will appear, that irritating remedies, whether externally or internally employed, are applicable only in spurious palsies; and that they often do harm, and never service in the true palsy. Even Cullen, in summing up the evidence his long experience had produced, says, “ with respect to the whole of

Irritating  
remedies  
when pro-  
per in  
palsies.

\* First lines, vol. 3, p. 61.

† Ibid. p. 62.

“ these

“ these internal stimulants \*, it is to be  
 “ observed, that they seldom prove very  
 “ powerful †; and wherever there is any  
 “ doubt concerning the nature or state of  
 “ the disease, they may readily do harm,  
 “ and are often therefore of ambiguous  
 “ use;” all which, as the matter at present  
 stands, we believe to be true; and shall  
 be happy if a different view of the  
 subject leads to more certainty.

Aroma-  
 tics.

Aromatics have been in constant use  
 in this complaint. They are stimulants,  
 which are said to act chiefly upon the  
 sanguiferous system. The nerves of the  
 stomach are also, no doubt, affected by  
 them; and they may, perhaps, have been  
 useful, by warming the nerves of this  
 viscus, where warmth is wanting; but

\* This book, we suppose, is in every body's hands;  
 and we therefore do not copy them, we allude how-  
 ever here to what are called the stimulantia cardiaca,  
 cinnamon, nutmegs, and wine, &c. Vol. 3. p. 70.  
 1112.

† See also Dr. Falconer's paper in the Memoirs  
 of the Med. Society. Vol. 2. p. 221.

injurious

injurious where an inflammatory diathesis prevails. However, I never saw effects from them worth notice in this complaint, while I followed the common mode of proceeding; wherefore I gave preference to cephalics, as they are called, because they seemingly act upon the nerves in a different manner. Of this tribe we will instance rosemary, lavender, and valerian; the latter of which I had more confidence in, because I had seen several with weak eyes get well while they were taking it; and all of them, no doubt, are stimulants, because they animate, by acting immediately upon the nervous system, without irritating, or occasioning inflammation. Simply considered, however, they are stimulants of an inferior order, without a sedative property; and seem not to be sufficiently animating to restore the nerves to their pristine state in a true palsy. The credit they have acquired was probably in spontaneous recoveries, where nervine cordials only were required.



Opium  
to be  
joined to  
aroma-  
tics.

Volatile  
salts.

Irritants.

Nettles  
and mus-  
tard,

required. In this instance they are proper remedies; but they will make quicker work, if joined with laudanum.

The volatile salts and spirits are stimulants, according to our sense of the word, because they revive the spirits when applied to the olfactory nerves; and when taken inwardly, they promote sweat, instead of inflammation; but these things will hereafter be spoken of, and we shall therefore advert to irritants.

CELSUS \* recommended a practice, which I suppose had been in use before his time, of irritating the skin of the benumbed limb with nettles, or mustard, till the part begins to look red †; which we shall hereafter consider, in speaking of topical applications to palsied limbs; at present we may observe, that this treatment, no doubt, occasioned mustard being

\* Lib. 2. cap. 27.

† Tincture of cantharides has been used for this purpose; and what it may do in local spurious palsies, I cannot tell. What is said of other irritants in the true palsy, is applicable to this remedy.

given

given inwardly for the purpose of irritating, and it certainly does sometimes irritate the primæ viæ; because the powder, in large doses, will now and then vomit, and open the bowels; and these effects may do some service in this disease when seated in the stomach. But how often do we see the sharpest preparations of it eaten in large quantities without any remarkable effect? And I am led to think, from what I have seen, that while we are trifling with this, we are neglecting more powerful remedies.

Blisters, which are highly irritating, Blisters. have been used upon somewhat similar principles. They are edged tools, and seemingly should never be employed in a true palsy.

## C A S E XVI.

A lady betwixt fifty and sixty years of age was seized with an hemiplegia; ner- vine cordials, wine, &c. were given, and upon the arm, betwixt the elbow and the  
L wrist,

wrist, a blister was applied. But notwithstanding the rest of the body spontaneously recovered, this part remained useless as long as she lived; and I have very lately seen a similar instance in a boy, who appears, after the use of blisters, to be rendered perfectly incurable. Indeed it seems to me, that by fretting they weaken the nerves; and, in true palsies, sometimes leave them in a state of debility unfavorable to a recovery, as happened in the above instances. Truly I am very fearful the free use of them has too often rendered the disease permanent, or killed the patient.

They are, however, sometimes applied in this disease, apparently without either doing good or harm, the patient remaining in statu quo. But the question is, what might have happened had they not been employed? For my part, since I have known the difference betwixt true and spurious palsies, I cannot call to mind one instance in which their service  
was

was manifest in the palsy, in which we are reprobating their use ; though I have seen very many, who, after recourse has been had to them, have dragged on a miserable life.

Great things, under various conjectural theories, have been said in their favor ; which perhaps have been supported by recoveries in recent or spurious palsies under their application ; for spurious palsies are often relieved by their use. In the other we are to remember, that nature many times surmounts difficulties thrown in her way, that spontaneous recoveries frequently happen \*, and that before the good effects of blisters can be ascertained, it must be proved that the amendment would not have been brought about, unless they had been used ; and do not we in chronic palsies always find them useless ?

\* See next Case.



## C A S E XVII.

I know indeed Dr. Charleton \* gives  
“ an instance, where a man, having a  
“ cyder-cholic, lost the use of his hands  
“ and arms ; but in a couple of months,  
“ by the use of the Bath waters, he re-  
“ gained the perfect action and strength  
“ of his arms ; the muscles of his fin-  
“ gers, however, not advancing equally  
“ in their recovery with those of the  
“ arms, blisters were applied to the  
“ wrists ;” by which (it was supposed)  
those parts were also restored to their  
natural powers. But whoever calls to  
mind how often Bath waters relieve pa-  
ralytic affections, where blisters have no  
sort of effect ; that when diseases of the  
bowels, or other parts of the viscera, which  
occasion palsies, are removed, the palsy  
ceases ; that they were removed in this  
instance ; and that when signs of recovery

\* Efficacy of warm bathing in palsies, p. 76.

begin

begin to appear †, the patient in the end commonly gets well ; we are inclined to conclude, that the whole restoration was owing to the waters alone, and that the use of the fingers would have returned, though the blisters had not been applied ; for have we not given some instances which seem to prove, that in the recovery of the office of the nerves in this complaint, if we are able to put the agent, by which they produce their effects, into regular motion again, it continues like the pendulum of a clock, and gradually increases in power to a greater or less degree of restoration ? And I have very little doubt of a recovery, more or less perfect, whenever I see the patient move his fingers and toes regularly and voluntarily, provided nature is not interrupted in her work by irritating remedies.

† The Bath physicians and surgeons observe, that when patients are discharged *much better*, they very often continue to amend and gain strength, till they are perfectly well.

A distinction, however, must be made betwixt the partial returns of motion, which seem to be occasioned by a sudden struggle of nature, and that which comes on gradually; the one being very imperfect, often affecting one or both limbs only of the same side, and little or no alteration happens after the first effort is over, the paralytic member remaining an ungovernable part of the body: whereas in the other, from the first signs of recovery, the fingers or toes (for instance) regularly shew their subserviency to the command of the will, and by degrees often assume their wonted use.

On the contrary, we know it sometimes happens, that there is not any remission in the disease, the power which gives motion to the muscles being intirely abolished at the onset, and incapable of being restored either by art or nature. Nor do I see how blisters to the wrists could be serviceable; for the tendons are only insensible inelastic pullies, and could  
not,

not, I think, be acted upon, so as to renew motion by blisters thus applied.

Mr. Hunter says, the paralysis of the urethra and acceleratores muscles is sometimes cured by blisters, and the internal use of cantharides \*; but it must be observed, that these were manifestly paralytic affections, not of the true, but of the spurious kind; and the practice cannot hence be considered of general use in palsies. How often have we seen the Bath-waters succeed, more or less, in chronic palsies, when blisters and irritating remedies have failed? Which is evidence of their being destitute of properties necessary to accomplish a cure; and is it not therefore foreign to the purpose to make use of them?

The internal use of cantharides has long been recommended in palsies, on a supposition of their being serviceable by their attenuating and irritating property: but I apprehend they would have been

Cantharides.

\* On Ven. Disease, p. 166.



more generally employed, in the great length of time they have been spoken of, had they been successful. I have several times seen them have a fair trial, by being given till they brought on the strangury; yet, in the present instance, I never saw any good effect arise from their use when taken by themselves. In the man's case at Lichfield there is not any thing to be said in their favor. They excoriated the urethra, but without increasing nervous energy; and in the case mentioned in the first volume of the *Memoirs of the Medical Society of London*, the only symptoms of their action seemed to evince, that they had excoriated and inflamed the bladder; and if what we have said is true, irritating and inflaming cannot possibly animate the nerves. Supposing them to irritate the nerves, where the will has lost its command, I will be bold to assert, that spasms, or more violent convulsions, will be the consequence, if the nerves are capable of sensation; which,

which, in my opinion, is an irrefragable argument against all irritating remedies in this disease; so that they may do injury, in a true palsy, without a possibility of doing good.

On the other hand, it may be asked, if irritating remedies do no good, in this instance, and sedative stimulants cure this palsy, how comes it to pass, that lead, *Lead,* which is a powerful sedative, occasions this disease in the extremities of those, who either drink lead dissolved in cyder, or who, working in lead mines, swallow the fumes of this mineral \* ?

To which we may answer, that lead is of a cold nature †, without any restorative property, or animating warmth, which opium, and the remedies recommended, possess. Or suppose it is said, have not we abundance of instances, which prove, that a solution of opium,

• It is well known the same holds good in many other metals.

† The extract of lead, added to cream, creates an extreme cold mixture.

applied

applied to bare nerves, brings on a palsy of the neighbouring muscles? It may with equal truth be observed, that an over dose of opium, given inwardly, brings on convulsions, and death; and yet we know that this drug, in a moderate quantity, both exhilarates the spirits, and appeases tumults in the brainular system \*; whence it appears to have an animating and sedative property; and there can be no doubt, but, by invigorating and quieting, it relieves the disordered state of the nerves, which must necessarily happen in this disease; and we know from long use in the cure of external disorders, where the parts want life and vigor, that the class of remedies recommended invigorates them, regulates the action of the nerves, and frequently restores them to their proper office †.

Opium,  
its effects.

\* Read Jones on the constant effect of opium used internally in a moderate dose. Chap. 4. p. 20.

Mysteries of opium revealed. He says he has known it to cure a palsy, p. 34.

† For instance, if the sticticum is applied to a cold indolent

Again, it may be said, did not the Baron Van Swieten \* cure palsies with irritating remedies, by giving a drachm of the volatile salt of hartshorn frequently in distilled lavender water, according to the theory of Boerhaave, who supposed, without proper limitations, obstruction of morbid or viscid lymph, to be always the cause of this disease, when it arose from any internal affection; and that attenuating salts of the acrid kind were necessary to accomplish a cure? But, notwithstanding the patient recovered, this account is no way satisfactory, as a precedent for general practice; because it is not specified whether the disease was a true, or a spurious palsy, on which much depends; for though this salt is

indolent swelling, when the cellular membrane is loaded with inactive lymph, it often sets it at liberty, and occasions it being absorbed, seemingly by *animating* the nerves; for is there any other way that this alteration can be brought about, but by nervous excitement?

\* Com. Sect. 1068.

a very



Volatile  
salts use-  
ful in  
spurious  
palsies.

a very proper remedy in some kinds of spurious palsies, as will hereafter be seen; yet it will appear it is not an apposite remedy in diseases on which we are treating.

But admitting this instance the Baron gives to be a true palsy, it is probable the restoration of health was owing to the other methods pursued at the same time; for he cleared the primæ viæ, for some days, “with aloes, sagapenum, myrrh, “and galbanum,” and afterwards gave an infusion of saffrafs wood, rue, rosemary, and the like, which might contribute more than the salt to the amendment of the patient; for have not we lately had a plain instance \*, where half an ounce of volatile salts was given in a morning fasting, dissolved in water gruel in a paralysis for three weeks together, without producing either good or evil? Because, where the cure depends upon animating the nerves, we must look to

\* Med. Soc. Lond. vol. 1. p. 364.

another

another part of the *materia medica* for assistance; what therefore may be the event of acquiring a habit of giving them in all kinds of paralytic affections without discrimination?

If cantharides taken inwardly ever assist, it must be in the spurious palsy; but, from what we have seen, we may doubt their efficacy; and certainly safer and more powerful deobstruents, according to the particular circumstances, may be chosen in their place.

Dr. Mead \* recommended issues in this *Issues.* disease, in preference to blisters, from Hippocrates, who, he says, advised them to be made in eight places; but upon turning to the passage he refers to †, if I am not mistaken, he treats not of the palsy, but on diseases of the head in general from plethora, and advises drains being made by the cautery; “two about  
“the ears, two in the occiput, one on  
“each side the nose about the angles of

\* *Mon & Med.*

† *De morb. lib. 2. sect. 12.*

“the

“ the eyes ; and the veins (arteries) about the ears were to be burned till their “ pulsation ceased.” And whenever a palsy arises from congestion, there cannot be any doubt about the propriety of making issues. We seldom, however, trust to issues alone, but have commonly recourse at the same time to other methods of unloading the vessels, &c.

## C A S E XVIII.

A gentleman of a full relaxed habit, about sixty years of age, became first indolent, afterwards dull and stupid, complained of a heaviness in his head ; an hemiplegia had gradually made a considerable progress, nor could he get out his words properly. The pupil of each eye was much dilated, he could not see well, and his pulse was under sixty, and sluggish.

Supposing these symptoms to arise from a congestion of lymph in and about the brain,

brain, I ordered a volatile plaister to the whole head, a seton in the neck, a grain of quicksilver daily in starch, and a draught composed of pepper mint water, sagapenum, guaiacum, and æther twice a day.

The plaister occasioned a large discharge of lymph from the head, the medicines purged him daily, the seton did its office very well, signs of amendment soon began to appear, and by a letter I received, I had the pleasure of being informed he was still much better, and had a prospect of getting well; but being weary of medicine, and neglecting its use, the disease again gained ground, and fatuity is the consequence.

#### C A S E XIX.

A man about forty years of age was gradually seized with a giddiness in his head, which abated and returned frequently; after some time he found his right arm become weak, and a palsy followed;



lowed; his legs also became almost useless; a paralysis had taken place in the muscles of his neck, and the pupil of each eye was greatly dilated.

These symptoms gave me reason to suspect an hydrocephalus, or a surcharge of lymph in the head; wherefore I ordered a dose of calomel to be worked off with jalap two or three times at proper distances, and then a grain of quicksilver divided with starch twice a day, interposing half an ounce of salts once a week; and a seton was made in his neck.

In ten days, or a fortnight, I saw him in a much better state; he had taken twenty pills, and half an ounce of salts; but he ascribed his amendment to the seton, and begged he might have an issue in each leg, which was complied with; and in no great length of time he perfectly recovered without farther trouble.

Some doubt, however, may arise, whether the whole cure can be attributed to the issues, notwithstanding the patient had

had so high an opinion of their service; for the quantity of quicksilver taken might render the lymphatic system pervious, and by occasioning absorption, put an end to the disorder. However, in paralytic affections, arising from a metastasis upon the brain, or from swellings in the coats of the nerves, I think they may be useful, if made near to the affected part; and I suppose it is to the drain they make, that they are sometimes useful to the curved spine. But, in a true palsy, they seemingly cannot afford relief; as unloading the nerves, where there is no morbid matter to be discharged, will not bring back nervous energy.

Bleeding is seldom indicated in the true palsy; for by weakening nervous energy, I apprehend it would do harm; but in a spurious palsy, when inflammatory symptoms occur, blood may be taken away with a prospect of advantage \*.

Bleeding, when necessary.

\* Sanguinis detractio vel occidit vel liberat. Celsus.

Electri-  
city.

Electricity has been thought capable of relieving this malady ; medical electricians have entertained great hopes of it ; but they have omitted to distinguish the paralytic cases, in which it is most likely to be successful. Knowing that it powerfully promotes the circulation of all sorts of fluids in the body, and that the nerves are conductors of the electrical aura, I was desirous of giving it a trial ; but though I have used it, and known it used many times, I never yet perceived any benefit to result from it in the true palsy. In this instance there is something more to be done, than to promote a motion in the fluids passing through the nerves ; they must be assisted, as we have observed, with remedies capable of renewing those powers, which enable them to perform their own office ; otherwise, putting the fluids into motion for a time, will be followed with the same consequences as winding up a watch, when the main spring is injured or broken.

The

The Baron Van Swieten has copied an instance from Jallabert \*, “ where the  
“ right arm, as he says, had been paralytic  
“ fourteen years. After the cure had  
“ been attempted in vain by other remedies, and the insensibility of the part  
“ affected, its livid colour, and wasting,  
“ afforded a very unfavourable prognosis;  
“ yet, after ten days, the sense of feeling  
“ returned to the part, it increased in its  
“ bulk, and was restored to its natural  
“ colour. And by the continual use of  
“ electrifying, the muscles, which before  
“ were paralytic, gradually recovered  
“ their strength !” which is truly a marvellous case, and I think we shall never see the like again.

Even the modern writers on medical electricity go great lengths, but not quite so far as Jallabert ; they are content with telling us, for instance, that electricity has cured the gutta serena, and hence

\* Comment. 1068.



conclude it to be a powerful antiparalytic; while others, from trials, have no faith in it, and think, in some instances, it has mischievous effects.

Now both sides may be right, in some degree, under different circumstances. In a true palsy, I believe, it will do no good; if improperly used, it may do mischief; but in a spurious palsy, where rendering the vessels pervious, is the main thing required from art, it may do service, where the fluids are capable of being put into motion; whereas, in confirmed obstructions, may not the electric aura pass round or through them without occasioning any alteration? I can easily believe it to have cured a gutta serena, because it has been repeatedly cured by the deobstruent property of small doses of mercury, when owing to simple obstruction succeeding inflammation, &c. whereas when the disease arises from a defect of nervous power, neither mercury nor electricity are useful. When a stream of the  
electric

electric aura is made to pass through a particular part, or even through the whole body, it is very well known it seemingly produces no sort of mischief; but when an electric shock is given in the true palsy, it may do harm by increasing the derangement, which has already taken place. We see accidental concussions of the brain or nerves sometimes occasion death; and what reason is there to expect relief from concussion of the brain, occasioned by an electrical machine?

Experimental philosophers tell us, that lightning and the electric spark are the same thing, because they produce similar effects: All know the former sometimes kills, and when less violent, it has brought on a palsy\*. In like manner an electrical shock has been known to kill small animals; and an increased palsy has manifestly been the consequence of its application†. When Dr. Franklin complain-

\* Mem. Med. Soc. vol 2. p. 226.

† Cavallo's Complete Treatise, p. 86.

ed of want of success in palsies \* with this remedy, it is said the shocks he used were too violent ; and strong shocks I believe are now laid aside. Nor have I any idea that gentle shocks or sparks, by agitating the nerves in the true palsy, do any good : I think they are more likely to be injurious, though perhaps in the spurious palsy advantage may arise from their use †.

It has been said to relieve the rheumatism ; and it probably may sometimes be serviceable in paralytic affections arising from that complaint : But were a palsy to be brought on by the *nervous rheumatism* ‡, opium, the sedative gums, camphor, &c. would be better remedies ; and even in the paralysis arising from the dregs of the inflammatory rheumatism, it remains yet to be determined, how far it

\* Cavallo on Medical Electricity, p. 15, or his Complete Treatise.

† See a spurious palsy cured by electricity. Lond. Med. Journ. vol. 5.

‡ Med. Surg. vol. 1. p. 414.

ought to have preference to those remedies of known efficacy, and with whose virtues we are well acquainted.

More dependance is to be had on the Bath waters, which have so long been celebrated for the cure of this complaint, when it has withstood the power of common remedies, and become chronical; nor is the objection Dr. Mead \* raised against them able to stand the test of inquiry; for the Bath physicians have shewn †, that the calling back, as it were, of the apoplexy is not their usual effects. Indeed it appears to me, that the doctor himself confesses the utility of these waters in the cure of the palsy; for he says "their chief virtue consists in a certain mineral heat, whereby they warm and cherish the stomach and intestines;" and if to this we add their power of removing obstructions of the viscera, the

Bath  
waters.

\* Mon. Med.

† Charlton's Inquiry, &c. and the Narrative of the Efficacy of the Bath waters.



feat often of the disease, there will but little doubt remain of their having properties adapted to the cure of this complaint; and accordingly we meet with several cases, in true palsies, in which they are successful.

Nevertheless, from the accounts published by Dr. Charleton in 1770, and by the Bath physicians in 1787, it appears that the greatest number of invalids of this kind, who present themselves for relief, are affected with spurious palsies\*; and it is reasonable to suppose, that warm bathing is well adapted to the cure of paralytic affections arising from cold and damp, sudden check of perspiration, rheumatism, and whatever occasions obstruction, and these springs are more valuable as they sometimes relieve both kinds of

\* Dr. Charleton gives an account of twenty-six cases, nineteen of which, at least, were spurious, and seven true palsies. In the account from the Bath physicians and surgeons, out of fifty-two cases, sixteen were true, and thirty-six spurious palsies.

this

this complaint, when they become too confirmed and obstinate for common remedies.

People seldom present themselves for relief in chronic palsies in private practice; for if the first efforts, to afford a cure, are not successful, the case is commonly given up, unless the patient can get to Bath; and I have had but few opportunities of trying the effect of opium in this state. I have noticed two, one of which was much amended, and in the other we had perfect success; yet, I am fearful there are alterations to be brought about in the cure of chronic palsies, which opium by itself is often incapable of accomplishing; for though it may animate the nerves, &c. it may not have the power of removing the impediments to motion, which is the consequence of long continued inaction.

Perhaps an union of opium and Bath waters might be more powerful than either alone; but it must be time and  
expe-

experience that can determine whether this conjecture is well founded or not. We have given one or two cases \* above, which seem to favour such kind of practice.

\* See note p. 109.

PART



PART II. SECTION VI.

*On topical applications in paralytic affections.*

**T**OPICAL remedies are chiefly useful in local palsies; and in these their services are sometimes eminent. We may remember the Baron Van Swieten\*, several times, as he says, happily cured a palsy of the arms, succeeding the cholic of Poictou, by friction, aromatic plasters, &c. applied to the belly only; because the disease had its origin in the nerves of the abdomen. This is the *paresis é cholica*, so well known, and those must have made but little observation, who are not aware, that various diseases of the abdominal viscera affect the limbs; and that by removing this complaint a cure is accomplished †, but this we apprehend is sooner and

\* Comment. Sect. 1070, sub finem.

† See Med. Surg. Sympathy of the nerves.

better



better effected by the assistance of the treatment we have spoken of, than by external applications alone.

### C A S E XX.

A paralysis of the legs was brought on by the rheumatism fixing upon the abdomen, and its contents ; and was cured by a few doses of calomel, and pills composed of gum sagapenum, gum guaiacum, and opium, together with an anodyne lotion to the affected part ; and were any other local palsy to happen, topical remedies might be sufficient.

But when the disease is seated in the head, what is to be expected from topical applications to the extremities ? The man whose case we have mentioned in part 1st, section 6th, case the sixth, had an incurable hemiplegia from the cicatrix which followed the lacerated wounds in the cineritious part of his brain. Living in the neighbourhood of a gentleman, who wished to alleviate the sufferings of mankind,

kind,

kind, and who kept a dispensary for this purpose, every external application, that could be thought on, was applied to the paralytic parts; he was frequently electrified till his hands and fingers became red, and various internal remedies were given; but all without benefit.

Here we are certain to what cause the hemiplegia was owing; and of the improbability of giving relief to the paralytic part, by topical remedies applied at a distance. And will not the event be the same, when the disease is seated in the head, from a defect in a portion of the brain, as described by Morgagni in his dissections? In the palsy from lead, we never applied embrocations to the limbs, being at so great a distance from the seat of the disease; and yet the patient got well, because the original cause was subdued.

Celsus \* advised to irritate the skin † of the benumbed part with nettles, or by

Irritating  
topics.

\* Lib. 3, cap. 27.

† Sic, ut ubi rubere cæperit corpus.

keeping

keeping mustard upon it till the part began to look red, when they may be removed; and this practice, without being limited, has been upon his authority ever since continued, to restore sensibility and motion, to the affected limb. We are to remember, however, that an increase of sensibility is seldom wanted. Nettles have been applied \* till they produced a burning heat and severe pain, without any advantage. I never have been able to discover that the application of mustard did any good in a true palsy. In this case, I believe, the green ointment and strong spirit of vitriol †, have not been more serviceable: Nor do I ever remember to have seen any kind of service from making a paralytic part red, by irritating topics, in the true palsy. If the disease be seated in the head, how can it be expected, for the reasons just given? This practice seems to have been taken up at first sight, and since

\* Home's Clin. Exper. p. 245, Exper. 8.

† Med. Monit. sect. 2.

continued without ever being properly examined ; and we will beg leave to inquire what end is answered by making the part red in this complaint, when owing to a defect in the substance of the brain.

Redness, every body knows, is owing to blood being invited into the lymphatics, which before did not carry red blood ; but it must be remembered, that blood in a natural state never enters the brain or nerves ; and were it any way to be forced into them, it would certainly do injury. It may be said, however, that it brings warmth into the part ; but paralytic limbs are often very warm, and yet it is no sign of recovery ; for they do not oftener recover than those that are otherwise. The old man, who endured a palsy in one of his arms for more than fifty years, had always a regular warmth and a regular pulse in it ; and when I saw him, it was in a state of perspiration, and yet emaciated. Nor does warmth, when artificially applied, make any alteration for the better,



ter \*, for we see, when warm fomentations, or simple water made hot, are applied in a true palsy, they answer no good end. Or were we to suppose that they brought a greater flow of nervous fluid into the part, what can be expected from it, when the nerves themselves are incapable of conducting it to its proper office? Electrical experiments occasion redness in a palsied limb; and no doubt move the nervous fluid through the nerves; yet they prove abortive, for the reasons already given. Besides, if irritating was to bring a flux which overloaded the nerves, would it not tend to interrupt their office? If inflammation was to be brought on, instead of redness, it would be contrary to nature, who I believe never accomplishes her work by preternatural means †. Be-

\* The reader will please to keep his eye in this reading on the true palsy.

† It is said the immediate union of divided parts, is accomplished by inflammation. We apprehend it is owing to another cause, to be spoken of in the third volume of Med. Surgery.

fides

sides inflammation always leaves the part more or less weak, and thus lessens nervous energy †.

To apply topics, in paralytic affections, with propriety, the species should be first distinguished ; for it cannot be supposed that the same application is proper in each of them, friction with a warm hand, excepted, and this may be assisted with suitable external remedies ; nor is it any way difficult to distinguish betwixt a true and a spurious palsy, by the rules above laid down.

If the head is quite clear in the true palsy, it is reasonable to suppose, that it is not the seat of the disease ; and that being unaffected, topics, to the affected part, may be used with some prospect of success ; but I am persuaded different kinds of remedies must be chosen to those in common use. The limbs may be wrapped in powders composed of bark, myrrh, gum benzoin, camphor, opium, &c. or plasters,

† See Case 16. Part 2. Sect. 5.

or fumigations made of the same kind of ingredients, may be applied for the purpose of animating the nerves. But when the disorder has been of long continuance, and some kind of spissitude in the juices may be supposed to be formed; the tincture of balsam of Peru, made with the volatile aromatic spirit \* (instead of spirit of wine,) and laudanum, may prove, as I have experienced, an useful litus.

In the spurious palsy, attenuating remedies should make part of the application; because the lymph, in the affected part, sometimes becomes viscid, and deobstruents are required to render the vessels pervious, and to promote absorption. Blisters, in this instance, by their attenuating property, do service; nor is there danger of their doing mischief, because the nerves themselves are not diseased. In the rheumatic paralysis, for example, this treatment is proper; but

\* Spt. Ammoniaë, camp. nov. phar.

it must be observed, “ in a rheumatic  
“ palsy, attended with a numbness of  
“ the elbow, with shooting pains that  
“ extended to the end of the fingers, the  
“ hand and arm, cold and useless, and  
“ the fingers contracted; that after some  
“ months trial of the Bath waters, and  
“ unguents composed of camphor, opium,  
“ and neats foot oil, the patient was  
“ cured by a litus composed of Bates’s  
“ anodyne balsam, and Thebaic tincture,  
“ equal parts; the fingers, which had  
“ obstinately resisted whatever means had  
“ been used, gave way, after two or three  
“ embrocations, and the patient was dis-  
“ charged the hospital cured \*.”

Pain sometimes seizes the parts about  
the head of the os humeri, or os femoris,  
and a palsy in the arm or leg is the con-  
sequence; the useless member not uncom-

\* Narrative of the effects of Bath waters by the  
physicians, &c. at Bath, p. 48. It is worth while  
to contrast this practice with that of using irritating  
topics.



monly hanging loose from the body like a thresher's flail. The cause of pain is, I think, no doubt, the cause of the palsy; and this probably arises from a distension or obstruction of the nerves seated in the ligaments and membranes about the joint. It resembles a sciatica, but more violent in its effects, though it will now and then give way to a similar kind of treatment.

The remedies I have found most effectual in these cases, after purging with calomel, &c. are small doses of divided quicksilver, opium, and spirit of turpentine, with the volatile plaster I have elsewhere spoken of; afterwards a plaster composed of pitch, opium, camphor, crude sal ammoniac, essential oils, &c. applied to the affected part, will often do good service; or sometimes a lotion of Barbadoes tar, and the volatile aromatic spirit, or the volatile spirit of sal ammoniac, should be used, where we suspect, from length of time, &c. attenuants are required; for I know very well this bitumen,

men, besides other properties, is a very powerful dissolver of thickened lymph \*, and I have accordingly used it, under the present circumstances, with considerable advantage; nor do we neglect both external and internal tonics, when strengthening the part becomes necessary.

I have very frequently seen this disease in children, without pain, who generally get well; but much time is often required for the purpose, though I have in my eye one, or I believe two cases of this sort, where medicines, the Bath waters upon the spot, and all the applications that could be thought on, have not availed.

Some writers speak of the cold bath in the cure of this complaint, but I believe it to be an edged tool, that should be handled with caution; for I very well

\* I have known it cure the tumors arising from viscid lymph in horses legs, called wind galls; and whoever has seen them opened must know the glutinous lymph they contain requires a most powerful attenuant to dissolve it, &c.

remember a middle aged man, to whom it had done irreparable mischief.

Were a glowing warmth to follow its use, I should expect it to do service ; but if coldness ensues, injury would most probably be the consequence. It may chiefly have been employed in the convalescent state of the spurious kind of this malady ; for when the viscid fluids are attenuated, and set at liberty, it may complete the recovery, by strengthening the constitution. But should an amendment any way shew itself in a true palsy, I see no reason for employing so hazardous a remedy.

The above hints may readily be extended by men of science to all that is connected with the subject ; and, I trust, it will be found that I have not built on the sandy foundation of speculative theory, but on the rock of plain simple facts.

RECAP.

## RECAPITULATION.

*A short recapitulation of that part of the above doctrine, which relates to apoplexy and coma, to bring the comparison betwixt them into a nearer point of view.*

THE nervous apoplexy is a disease *sui generis*, which more or less injures the principles of life\*, arising, in appearance, from an apoplectic diathesis in the brainular system.

On the contrary, the disease we call a *coma (somnolentum)* is occasioned by a distention of the brain, from a congestion either of blood, lymph, or serum, not yet extravasated; which may either be owing to an imperviousness in the brain itself, or to the fluids which belong to it, becoming incapable of passing through the vessels of this part. When further ad-

\* Trallian.



vanced, we sometimes meet with extravasated blood and serum, from a rupture of the vessels; but this, instead of putting a period to life, is only the consequence of the cause of death, and upon enquiry will be found not to be apoplectic or a sudden affection, but a diseased state of the brain, or the vessels connected with it, or more frequently both together\*.

\* Among many other instances to be met with in the same author, we will give an abstract of a case in point, from the sixtieth letter of Morgagni, article the fourth. “ A man rather fat, was seized a  
“ third time with an apoplexy, and died. The vessels about the head were turgid. Upon opening  
“ the skull, a considerable quantity of black blood  
“ flowed out from the infundibulum. It had also  
“ distended the vessels passing through the pia mater,  
“ which invests the cerebrum and cerebellum. In  
“ the middle of the left hemisphere, a small quantity of blood was extravasated, and also a great  
“ quantity in all the ventricles, &c. which were lacerated and *corrupted*, but without any disagreeable smell.” And can it be possible to hesitate a moment, in deciding whether death was occasioned by the extravasated blood, or the rotten state of the brain?

Nor

Nor is it material whether this was owing to the tendernefs, or ossification of the arteries, or other parts within the scull, as Morgagni has described, because unfortunately they are both mortal affections.

The milder species of nervous apoplexy we have seen sometimes admits of a cure, and the coma, while the juices are only obstructed and accumulated, before extravasation happens, will also sometimes give way to evacuation. But if the vehement apoplexy takes place, or a considerable extravasation happens, what can be expected from art?

We also hope, that the distinction betwixt true and spurious palsies will not be less useful; nor can we in our opinion, impress these distinctions too powerfully upon the mind of those who are drawing the outlines of future practice, because the proper treatment seems to depend upon their being known.

*Post-*

## P O S T S C R I P T.

*Referring to page 38 of the foregoing Commentary.*

*On an Apoplectic Epilepsy.*

A Healthful woman, about thirty years of age, near the full period of gestation, was seized with symptoms that partook both of apoplexy and epilepsy. She fell down suddenly, instantly became insensible to all that passed, and a stertor ensued, accompanied with a hard vibrating pulse, and violent convulsions. The convulsions returned periodically, and the midwife, who was called to her assistance, finding a natural presentation of the child, was for some time in expectation of a delivery happening; but being disappointed, my assistance was desired. Nor had I been in the house a quarter of an hour before the fœtus was expelled during a severe convulsion.

The irritating cause being removed, I expected some mitigation of the symptoms would follow, but they continued without

without abatement, and I therefore gave her thirty drops of laudanum. Next morning I saw her again; the insensibility, stertor, and convulsions still remained. Wherefore, after a clyster, which had a proper effect, I ordered twenty drops of laudanum to be given every ten or twelve hours, till I saw her again, or till the symptoms abated. At the end of the third day we had manifestly gained advantage over the disease, and though we lessened the dose of laudanum, yet in four or five days we thought ourselves secure of a recovery, and it accordingly happened.

This was many years since, and seemingly supports the doctrine we have advanced. I well remember it was the spasms which led me to the use of opium. The theory I had imbibed at that time concerning apoplexies, and the chaos in which the subject was involved, prevented me from extending its use to the cure of that complaint; and after all, it is hard  
to



to say what share it had in the recovery of this patient ; because the change that women undergo after delivery, naturally removes the irritability they possess in parturition, as we have already explained in a treatise on child-bed fevers. There is reason, however, to think opium did service in this instance, because I apprehend it is never an inactive remedy ; and if it did not do service, it would probably have done harm. But of all these things the reader will judge for himself, and accept the well-meant intention of the author, in laying before him the facts which have come to his knowledge.

The following cases happened since this book went to press.

A MASON 55 years of age had the appearance of being convulsed in the face, a twitching of the right arm, and a weakness of the eye of the same side followed ; but these symptoms being of short continuance, they were disregarded.

A few

A few days afterwards I saw this man by accident, at which time he complained of an oppression at his stomach, and upon his lungs; and though I told him what ought to be done, he still declined medical advice. However, in less than a week I was desired to see him, an hemiplegia having come on, with a violent pain in his head; he had a small degree of fever upon him, but his pulse was rather weak than strong, and not more than an hundred strokes in a minute.

He was immediately purged with an infusion of senna and manna, corrected with the mild spirit of vitriol, after which the spiritus mindereri was given at proper distances for the space of twelve hours; but though it made him perspire, his disease remained in *statu quo*. Upon this, a scruple of Dover's powder was given every five or six hours for two days together, in which time his leg and arm shewed great signs of reco-

recovery; but notwithstanding he slept mostly while he was taking this medicine, the pain in his head still continued violent; for which reason a volatile sweating plaster\* was applied to the whole head with desirable effect. His bowels were kept properly open, and he took ten drops of laudanum, with a scruple of valerian in valerian tea, three times a day for about a fortnight, in which time the pain in his head nearly left him; he has acquired a tolerable use of his limbs, and has every appearance of being well in a short time.

Some time before this happened, I was called to a man who was seized with an hemiplegia, accompanied with great pain in his head. Before I saw him a blister had been applied to the back according to common practice, and death followed the next day but one. Now, though it is very difficult to determine what effect

\* Med. Surgery, vol. i. p. 411.

*Postscript.*

191

the blister had in this case; yet this is certain, if the practice under which the one man recovered was right, the other in a true palsy must be wrong.

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THE END.



**E R R A T A.**

Page 32, line 7, for *it it*, read *it is*. P. 83, note ; for *diuturnan*, read *diuturnam*. P. 98, l. 6, in *every instance*, read *in general*. P. 150, l. the last, for *pullies*, read *corde*. P. 170, note ; for page 109, read 103. P. 176, note, after the word *reading*, add a comma. P. 181, l. 9, for *geneally*, read *generally*. P. 184, for *matre* read *mater*.

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